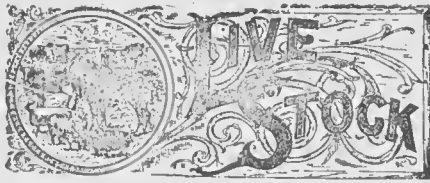


THE NOR-WEST FARMER.

Vol. 18; No. 16.
Whole No. 220.

WINNIPEG, MANITOBA, AUGUST 21, 1899.

\$1 a Year,
in advance.



How to Tell the Age of Horses.

To tell the age of any horse,
Inspect the lower jaw, of course,
The sixth front tooth the tale will tell,
And every doubt and fear dispel.

Two middle "nippers" you behold
Before the colt is two weeks old;
Before eight weeks two more will come;
Eight months the "corners" cut the gum.

The outside grooves will disappear
From middle two in just one year;
In two years from the second pair;
In three the corners too are bare.

At two the middle "nippers" drop;
At three the second pair can't stop.
When four years old the third pair goes;
At five a full new set he shows.

for draft horses here than the Clydesdale, and will never find a better."

The same was said the other day in the Scottish Farmer, by old Alex. Wilson, a shrewd specimen of the old school of Scotch horsemen:—"We have the best draft horse in the world, and a little experience of an old man's and a lover of a good horse may be of some help to the rising generation. If you breed on the line and keep the sire pure, you will attain the desired end, no matter what is said with regard to the influence of the dam. I will give you two notable examples of this.

"There is no man who will deny that Darnley and Prince of Wales stand out above all other horses as specimens of our famed Scotch breed and they are both pure bred Clydesdales by their sires. Just look at the first volume of the Clydesdale stud-book and you will find that Darnley and Prince of Wales are the only two horses tracing back that far which are in lines of unbroken success. Mr. David Riddell said, 'Ye canna get ower muckle o' Darnley and Prince of Wales blended.' Look at Prince of Wales and Darnley's pedigree. Let us go back to Clyde Boy and Salmond's champion horses I knew

on the same lines for the next forty years as we have been doing in the past."

Wounds of Live Stock.

Among the other qualifications of the farmer he must be something of a surgeon. That is, he must know how to treat wounds that are liable to occur among his live stock. In a recent edition of the Illinois Agriculturist, published by the Agricultural club, University of Illinois, we find an article by D. McIntosh, professor of veterinary science, which gives some directions which we think our readers ought to have before them:—

Wounds are of four kinds, clean cut, torn, bruised, and punctured. A clean cut wound, lengthwise of the muscle, is the easiest to manage. First, see how deep it is and that there is no foreign substance in it, then stop the bleeding by applying hot or cold water. If a large artery has been cut, tie it. Put a teaspoonful of carbolic acid into a quart of water and let a little of this run over the cut surface. If the wound is not deep the edges of it can be drawn together by



On the Farm of R. C. Grisdale, Rosser, Man.

The deep black spots will pass from view.
At six years from the middle two.
The second pair at seven years;
At eight the spot each "corner" clears.

From middle "nippers" upper jaws,
At nine the blacks will withdraw;
The second pair at ten are white;
Eleven finds the "corners" light.

As time goes on the horsemen know
The oval teeth three-sided grow;
They longer get, project before
Till twenty; when we know no more.

—Farming World, Edinburgh.

The Clydesdale for Canada.

In our American exchanges we read every now and then of extensive importations of Percherons, which our cousins across the line seem to look on as models of draft horse quality. If you want a horse to look at or to sell, the Percheron is all right, but he won't do for Canada, his day here is past. We want a horse to work and wear, and live year in, year out, without the help of a V.S. One of the best horsemen in the west said to us the other day, "We want no other sire

forty years ago. They were famous in their day and sound cart horses with plenty of weight. Taking Prince of Wales, his line runs—Clyde Boy, bred by Mr. George Scott, Barr; the sire of Sir Walter Scott, the sire of the General, the sire of Prince of Wales, the sire of Prince Robert, the sire of Hiawatha, the champion of Scotland to-day. If that is not pure breeding, I don't know what pure breeding is.

"Taking Darnley, some people will be inclined to say that he inherited a deal of good breeding from his dam. Now, I agree that a horse is better for having a good dam, but I will prove that Darnley got no help from his dam. She had two other stallions—Newstead and Newman—and none of them ever bred a horse to wear a belt, although both their sires were better horses than Darnley's sire. Darnley's pedigree runs thus:—Salmond's Champion, the sire of Loch Fergus Champion, the sire of Conqueror, the sire of Darnley, the sire of Top Gallant, the sire of Sir Everard, the sire of Baron's Pride, the sire of Casabianca. Now, if we look at Hiawatha and Casabianca fighting for the Cawdor cup at the stallion show, we need not be afraid of the Clydesdale horse deteriorating if we keep

either silk thread or catgut steeped in the above solution. If, however, the wound is across the muscle or an inch or more in depth, do not stitch, because the cut ends will move below the stitches.

Torn wounds should have the bleeding stopped as above mentioned and then cleaned by letting water run over them. Do not try to sew them up. If it should assume an unhealthy appearance, use acetate of lead, half an ounce; sulphate of zinc, half an ounce; carbolic acid, one dram, and water, one quart. Clean the wound with water and apply this lotion twice a day.

Punctured wounds are the worst of all because they are liable to have foreign substances, such as hair and pieces of wood within, causing inflammation, mortification and death. Probe the part to find the depth and direction of the wound, see if there is any foreign substance in it and remove it. Clean it as well as possible, then dip a piece of soft muslin in a solution of carbolic acid, three drams; water, four ounces; press this to the bottom of the wound, let it remain a few hours, draw it out and put in a fresh one, and do this three times a day. When it begins to matter the danger is passed. Clean it out twice a day and in-

ject a little of the carbolic acid lotion used for cut wounds.

Bruised wounds, if bathed with acetate of lead, half an ounce; water, one quart, several times a day, will not inflame. Sometimes matter will collect and the parts will swell up and be soft and puffy. In this case open it and inject a little of the following twice a day: zinc chloride, two drams; water, one quart. If it leaves a thickening rub with the following every second week: Biniodide of mercury, one dram; lard, one and one-half ounces.

For old, unhealthy sores, such as are made by constant rubbing, and will not heal, remove the cause and apply a little terchloride of antimony with a feather. In three days a scab will come off and if it looks soft and spongy, apply a little more of the antimony every three days until the part becomes healthy. Then use zinc oxide, one ounce; lard, two ounces; rubbing on a little once daily. When the bruises are below the knees, in what is called the low order of tissue, more care will be required. Usually a low form of inflammation sets in, a yellowish discharge begins, and the surrounding parts swell and become hard, the centre of the wound fills up, and we have a very bad blemish. The first thing to do in case of a barbed wire cut on these parts is to put the animal where it can be kept quiet. Bathe the leg every half hour for the first twenty-four hours with a lotion made of acetate of lead, half an ounce; sulphate of zinc, half an ounce; tincture of arnica, two ounces; water, one quart. After the first twenty-four hours, bathe it three times a day. If it fills up higher than the skin, apply a little bichloride of mercury with a smooth piece of stick, but do not use more at a time than will lie on a dime as there is danger of the poison being absorbed. If the animal is fevered or its legs swell from standing give the adult horse half an ounce of nitrate of potassium three times a day in its drinking water or a bran mash for a few days, and give half this quantity to a yearling. If in an unthrifty condition give the following: Sulphate of iron, four ounces; nuxvomica, two ounces; mix and divide into twenty-four doses, one to be given twice a day in a mash, and half the quantity for a yearling.

Watering Horses at Harvest Time.

A heavy season for the horses is on just now and it will pay every farmer to take good care of his teams. Many farmers have found it a most satisfactory plan to take water to the fields for the horses, especially when the weather is excessively warm. Farmers take water to the fields for themselves, why not for the horses. The horse's stomach is small and he has not the ability to carry a supply of water like a camel. It is little trouble to give them a drink and it is a wonderful help to a team. Set a barrel on a stone boat or sled, fill it at the well and take it to the field with you. If properly planned little time is wasted in taking it to and from the field. Once or twice during the half day give the horses water from a bucket. To prevent the water becoming too warm, cover the barrel with old sacks and wet them occasionally. Some may think this is going too far, but at any rate, whether there is really much gained by it or not, there is at least the feeling that an effort is being made to help the horses stand the heat and heavy work of the day.

The volume of trade in branded western range horses that has been done this year is one of the best proofs of the shortness of the market.

BREEDERS' DIRECTORY

CARDS under this head inserted at the rate of \$1.50 per line per year. No card accepted under two lines, nor for less than six months.

D. FRASER & SONS, Emerson, Man. Breeders and importers of Shorthorns, Shropshire and Southdown Sheep. Pedigree Poland China Pigs a specialty, from the best strains in the United States.

W. J. HELLIWELL, Oak Lake, breeder of Shorthorn Cattle, Shropshire Sheep, Barred Plymouth Rocks, Light Brahmas and Partridge Cochins. All kinds of above young stock for sale. Prices right.

R. L. LANG, Spruce Bank Farm, Oak Lake, Man., breeder and importer of Shorthorn Cattle, improved Berkshire Swine, White Wyandottes and White Leghorns. Young stock for sale. 2448

WM. MCBRIDE, importer and breeder of improved Chester White Pigs. Young stock for sale. Pairs and trios furnished not akin. Address—Wm. McBride, Box 253, Portage la Prairie, Man.

JAMES GLENNIE, Arden, Man. Importer and breeder of Holstein-Friesian Cattle. Bull Calves of the famous Teake strain for sale. Write for prices. Box 95.

J. J. MDIR, Glendinning, Man. P. China Pigs, B. P. Rocks, L. Brahmas, S. L. Wyandottes, B. Turkeys, P. Ducks. Orders booked for pigs and eggs.

KENNETH MCLEOD, Dugald, Manitoba, Chester White and Suffolk Pigs for sale. My stock are prize winners at the Winnipeg Industrial Exhibition.

JICKLING & SONS, Dew Drop Ranch, Carman, Man. Breeders of Oxford Down Sheep, improved Yorkshire Pigs & B. Leghorn Poultry. Stock for sale.

HENRY LAYCCK, Rosebank, Man., breeder of Shorthorn Cattle and P. China Swine. Young stock of both classes for sale. Prices satisfactory.

F. W. GREEN, Moosejaw, Assa., breeder and importer of high-class Shorthorns. Some fine young stock for sale, climatised to Western range.

K. McIVOR, Roselea Farm, Virden, breeder of Shorthorn Cattle and introducer and grower of Western (or native) Rye Grass. Seed for sale.

JOHN TURNER, "Bonny Brae Farm," breeder of Polled Angus Cattle. Young stock of both sexes for sale. Address, John Turner, Carroll, Man.

A. J. MORRISON, Carman, Man. Breeders and importers of Shorthorns and Berkshires. I have a fine lot of young and old Swine for sale.

W. C. EDWARDS & CO., North Nation Mills, P. Q. Importers and Breeders of Ayrshire Cattle Shropshire Sheep and Berkshire Pigs. 1642f

J. VAN VEEN, breeder of Galloway and Hereford Cattle and Shropshire Sheep, Lake View Ranch, File Hills, Port Qu'Appelle, Assa. 1588

BRAMPTON JERSEY HERD. Full stock of A. J. C. Cows, Heifers and Bulls. Extra quality. B. H. Bull & Son, Brampton, Ont.

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JAS. ROBERTSON, Beaver Brand Farm, Glendale P.O., Man. Poland China Pigs for sale from imported stock. Prices right.

ROBT. WHITE, Wakopa, Man., breeder of Shorthorns. Herd headed by "Crimson Chief" (24057) Young stock for sale.

L. A. BRADLEY, Portage la Prairie, Manitoba, breeder of Tamworth Pigs. Young Pigs for sale.

F. J. COLLYER, Welwyn, Assa., breeder of Polled Angus and Berkshires. Young Pigs for sale.

W. M. SMITH, Fairfield Plains, Ont. Ayrshires, Southdowns, P. Chinas, Duroc Jerseys, Poultry.

WM. CHALMERS, Hayfield, Man., breeder of Shorthorn Cattle. Correspondence solicited.

GEO. ALLISON, Burnbank, Man., breeder of Shorthorns and Leicesters. Stock for sale. 2481

STEEL BROS., Glenboro, Manitoba. Breeders of Ayrshire Cattle. Young Stock for sale. 1731f

JAMES STANCOMBE, Cartwright, Man., breeder of Shorthorns. Three choice-bred Bulls for sale.

THOS. MCCARTNEY, Longburn, Man. Ayrshire Cattle, 4-yr-old bull David, & young stock for sale

JAMES STRANG, Baldur, Man., Shorthorns. Excellent milkers. Some fine youngsters on hand.

MENZIES BROS., Shoal Lake, Man., breeders of Shorthorns, Oxford Downs and Berkshires.

THOS. H. WEBB, Clearwater, Man. Breeder of Berkshire Swine. Correspondence solicited.

WALTER JAMES, Rosser, Man. Breeder of choice Shorthorn Cattle and Berkshire Swine.

GEO. N. HARRIS, Lynden, Ont. Breeder of reg. Berkshire Pigs. Young stock for sale.

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H. KINNEAR, Souris, Man., breeder of Shorthorn Cattle. Young stock for sale.

JAS. MURRAY, Breeder of Border Leicester Sheep. Young Rams for sale. Lyleton, Man. 1627f

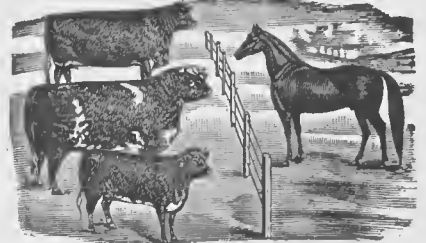
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R. WADE, Birtle, Man. Breeder of Shorthorns. Young stock for sale.

W. E. BALDWIN, Manitou, Man. Tamworth Pigs. Young stock for sale.

ALEX. WOOD, Souris, Man., Breeder of Oxford Down Sheep.

W. D. FLATT, HAMILTON, ONTARIO.



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7 IMP. SCOTCH BULLS 16 CANADIAN BRED BULLS

21 2-yr-old Imp. Scotch Heifers,
8 yearling Imp. Scotch Heifers,
15 Canadian-bred Heifers.

Also Cows, including imported and Canadian bred, served by the imported bull "Golden Fame." Prices consistent with quality. Correspondence and Inspection invited. Visitors welcomed.

R. McLENNAN, Moropano P.O., Man.
Lakeside Stock Farm.



SHORTHORN COWS AND HEIFERS

of first-class breeding for sale,
in calf to imported bull Sir Colin
Campbell.

HOPE FARM

ST. JEAN BAPTISTE, MAN.

Headquarters for GALLOWAY CATTLE.

Apply to T. M. CAMPBELL, Mgr.



TREDINNOCK HERD OF AYRSHIRES.

Winners at the leading fairs of 1898. Awarded at Toronto, London and Ottawa—16 firsts, two sweepstakes, silver medal and other prizes, in all numbering 34, among which were seven herd prizes, four being firsts, and first for four calves, bred and owned by exhibitor.

ROBERT REFORD, Proprietor.
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2458 **ST. ANNE DE BELLEVUE, QUE.**

WALNUT GROVE SHORTHORNS.

We are offering five Bulls from 7 mos. to 2 yrs. of age. Stock Bulls (imp) Warfare (58712) and (imp.) Royal George (17106), and Centennial Isabella, Scotland Yet (23375), also a few Heifers.

A. & D. BROWN, Iona, Ont.

F. TORRANCE, VETERINARY SURGEON

Graduate of McGill University. Diseases of animals treated scientifically. Surgical and dental operations a specialty.

Office: 214 James St., Winnipeg.
Telephone 295.

Results of Veterinary Inspection.

There is no more important matter in connection with horse breeding than the soundness of the stallion. In England,

have taken an active part in the movement for the revival of horse breeding in this country. In the discussions which in 1884 and 1885 resulted in active measures being adopted, it was contended that the great deterrent to the extension

for unsoundness out of thirty-five examined, and at the first show held by the Royal Commission on Horse Breeding, at Nottingham, in 1888, the number examined was seventy-four, of which thirty-one were passed by the veterinary inspectors, forty-three being cast. The change to three rejections out of forty-nine inspected at the recent show is certainly a remarkable testimony to the good results effected by these shows and the premium system.

In the English show rings this inspection takes place before the animals enter the ring. In Canada the inspection is less rigid and is usually only done when asked for by the judge, when he suspects unsoundness. There being fewer animals entered, and all well known, renders the necessity of a close inspection less needful. When it is made little or nothing is said about it in the press. The animal enters the ring but fails to take a place, and thus nothing is known about it.

In England, on the contrary, it is generally known whose horses have failed to pass the examination. Soundness in stallions cannot be too strongly insisted on.

A man seeing several very lean horses standing tied in front of a livery stable, asked the proprietor if he made horses. "No," said the proprietor; "why do you ask?" "Only," replied he, "because I observe you have several frames set up."

The Exmoor pony is one of the hardest and strongest animals of its size to be found in England. Ponies of this breed are kept in purity on the great prison farm of Dartmoor, in the most elevated and desolate parts of the moor. This farm is of great size, and is worked by the convicts. Among a lot of other stock kept are lots of the hardy-bred ponies which for mettle, sure-footedness, docile tempers, and general good qualities are hard to beat, pick your equine animals from whence you may. The endurance of these ponies appears to equal that of Arab steeds, and, like the latter, the



Section of part of Shelter Belt, chiefly Box Elder, eight years planted, 100 feet wide, extending $1\frac{3}{4}$ miles along the West and North Boundaries of the Indian Head Experimental Farm.

at the present time, all stallions which gain prizes at the agricultural shows, have to undergo a veterinary inspection, says the London Live Stock Journal. This action has been the means of working a wonderful improvement of late years, shown by the fact that at a recent show out of 221 stallions examined only five were rejected for unsoundness. As to the Shire stallions, the exact figures are not at hand, but the soundness of this breed has also been steadily increasing. The most satisfactory result was as regards the thoroughbred stallions, and as to this we cannot do better than quote the report that was received by the Royal Commissioner on Horse Breeding from Professor Sir George Brown, on behalf of the veterinary inspectors. This report was as follows: "Comparing the results of the veterinary examination of the Queen's premium stallions exhibited at the present show at the Royal Agricultural Hall with the results of similar examinations at Newcastle in 1887 and Nottingham in 1888, it is impossible to avoid the conclusion that a remarkable success has attended the efforts which have been made to prevent the use of animals for breeding purposes affected with hereditary diseases, such as cataract, side-bones, ring-bones and spavin. Since that time, and during the past four or five years, there has been a noticeable decrease in the above-named diseases, which were at one time exceedingly common, and in the present exhibition it is satisfactory to be able to state that a critical inspection of forty-nine horses did not reveal a single instance of cataract or other disease of the visual organs. Further, it may be observed that no instance of roaring or broken wind was discovered, although the tests applied were exceptionally severe. The total result of the veterinary inspection was the rejection of only three horses out of forty-nine examined." This report must be very pleasant reading to those who

of horse breeding was the impossibility of farmers obtaining at reasonable rates the services of suitable and sound thoroughbred stallions, and it was to remove these difficulties that the work was under-



Section of Shelter Belt of Aspen or Tremulous Poplar, nine years planted, at the Indian Head Experimental Farm.

taken. When, on the initiative of Sir Walter Gilbey, premiums were first offered by the Hunters' Improvement Society in 1885 for sound thoroughbred stallions to serve farmers' mares at reasonable fees, there were twenty-five sires rejected

bone in the leg is remarkably fine, but, nevertheless, as strong as iron. This shows that if the bone in the leg is flat it will not give way or throw out any peculiarities; flat the bone in the Dartmoor pony's leg is, and that to a degree.

Principles of Controlling Horses.

Horses are essentially creatures of habit. Of gentle, confiding disposition, but excessively nervous; timid at times, irritable and prone to resist strenuously anything that frightens them, says "Our Animal Friends." If, for example, you put a rope halter on an unbroken colt and tie him to a post, the more the rope cuts into his tender skin the greater will be his struggles, while he will soon yield to a halter that inflicts no pain. Through nervous fright horses sometimes become panic stricken and absolutely uncontrollable. They suffer also occasionally from what, for want of a better name, may be called "nervous paralysis," when they seem to be physically incapable of motion. This condition is almost invariably the result of brutal treatment, and the only reasonable explanation of it is that the first emotion aroused in the horse by punishment is fear; that when he finds that he cannot escape, anger and a spirit of resistance are mingled with his fright and that these combined emotions produce this morbid state.

The horse is quick to take advantage of the ignorance or fear of those who control him. As compared with the dog he is somewhat slow of comprehension, but he differs from the dog in this also, that he seldom becomes "too old to learn new tricks," and his memory is so retentive that he never forgets what he has once thoroughly learned.

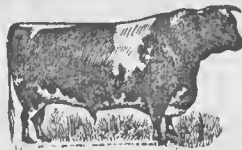
It may also be set down as a rule, with but few exceptions, that he means to do just right; if he errs it is either from ignorance, pain or fright; rarely from stubbornness or vice. This seems to be generally unknown, or at least disregarded, for of all animals the horse is the least understood, the most harshly judged and unjustly treated; and for the least infraction of discipline, is too often brutally punished. If men who train horses would control their tempers, and endeavor to ascertain the cause of the animal's misbehaviour, they would find that there is often a good excuse for his actions.

Killing Barn Flies.

Some stables are continually infested with large numbers of barn flies which constantly annoy the stock. The U.S. Department of Agriculture have completed extensive trials in the destruction of these pests and find that spraying with kerosene emulsion or sprinkling with pure kerosene will destroy the flies, larvae and eggs. Kerosene emulsion can be made up and kept ready, as it will keep in kegs a long time. With a spray pump it can also be used to keep flies and mosquitoes off the cows. By making a narrow lane and causing the cows to pass through it, first one way, then the other, both sides of the cows can be sprayed in a few minutes and relief obtained from the incessant torment. Kerosene emulsion requires to be applied frequently to keep down flies. On cattle it will give freedom from attack for more than one day, sometimes two days.

It was not long ago that between the bicycle and motor carriage it looked as though the horse was doomed. Such, however, is not to be just yet. The motor vehicles are as yet a luxury, in fact, anything but a luxury, as they require an expert electrician to handle them. They are not easily handled and quickly get out of repair. They have been tried for delivery work by many city firms, but have been discarded after a trial and horses put on again. The horseless age is not in sight yet.

Marchmont Stock Farm.



SCOTCH-BRED

SHORTHORNS

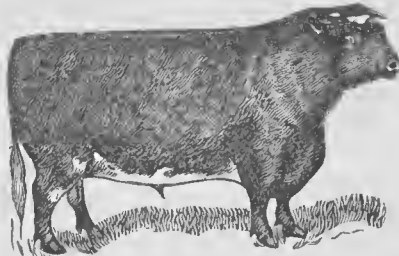
12 Young Bulls for Sale

At moderate prices. Also **BERKSHIRE PIGS.**

TELEPHONE 1004B.

W. S. LISTER, Middlechurch P. O.,
(7 miles North of Winnipeg.)

J. E. SMITH.



J. E. Smith, breeder and importer of Clydesdales and Shorthorns, will hold his first **ANNUAL AUCTION SALE** early in November, 1899. Nothing but young animals will be offered. Catalogue later, on application.

J. E. SMITH, Box 274, Brandon, Man.

HOLSTEIN CATTLE. YORKSHIRE PIGS.

One 9 months Bull Calf for sale, of good dairy strain. Young Pigs now ready for delivery.

A. B. POTTER, Montgomery, Assa.

PURE BRED AYRSHIRE CATTLE.

Imported from Scotland, of the very best prize winning milking families, possessing large size, robust constitution, beautiful udders and large teats. Gold Medal herd from 1893 to 1897 at leading Canadian shows. Great prize record. Not been exhibited since. Choice Tamworth Swine—The bacon pig of the day. Stock all from noted prize-winners. Choice Collie Dogs—Imported and home bred. Won all leading prizes in Canada up to 1897, also second at New York Bench Show in 1897.

Stock all ages for sale.

R. O. STEACY, Importer and Breeder,
Box 720, BROCKVILLE, ONT.

PIONEER HERD OF SHORTHORNS



I have been breeding Short-horn Cattle right here for over a quarter of a century. I breed my own Show Cattle, and last year had at the Winnipeg Industrial the Gold Medal Herd. First for Bull and two of his get, and first for Cow and two of her progeny. I usually have stuff for sale, and am always pleased to show it.

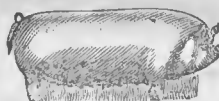
WALTER LYNCH, Westbourne, Man.

OAK GROVE FARM.

SHORTHORN CATTLE

and

LARGE, IMPROVED
YORKSHIRE SWINE



Orders booked now for Young Pigs. Among the Shorthorns recently imported from Ontario, I have for sale the 15 months old bull, Lord Lottie, and a few very fine heifers.

Timothy Seed.—A large quantity of pure, clean, timothy seed for sale.

JAS. BRAY,
Longburn, Man.

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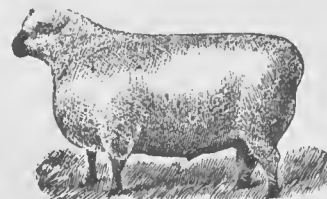
J. A. S. MACMILLAN

IMPORTER OF

Clydesdale, Shire and Hackney
STALLIONS,

Has a few choice ones for sale; also

Pure Bred Shropshire Sheep.



Rams and ewes from the most fashionable imported blood. Inspection invited. For full particulars apply
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Box 483, BRANDON, MAN.

Prairie Home Stock Farm,

CRYSTAL CITY, MAN.



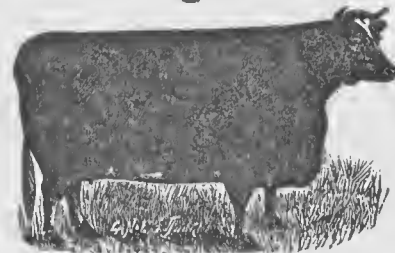
Shorthorn and Ayrshire Cattle.
Shropshire Sheep.

Yorkshire and Berkshire Swine.

Address all communications to JAS. YULE, Mgr.
2260

THOS. GREENWAY, PROP.

Choice Young Bulls for Sale!



Sired by **TOPSMAN**, the champion Short-horn Bull at Winnipeg in 1899, and **STANLEY 6th**.

Anyone wishing to obtain a bull possessing individual merit and of high breeding can make no mistake in writing

J. G. BARRON, Carberry, Man.

J. MCGREGOR & CO.

Breeders and Importers of

Western Range Horses

100 head of Agricultural, Driving and Saddle Horses now on hand.

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Towner, North Dakota.

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Selling Agents at all principal points.

WILLOWDALE STOCK FARM.

SHORTHORN CATTLE and CLYDESDALE HORSES.

3 Young Bulls for sale. A number of young Bulls sired by Caithness.
PURVES THOMSON, Pilot Mound, Man.

Export Cattle for British Market.*By Prairie.*

Judging from quotations in the principal British centres, where the beef of

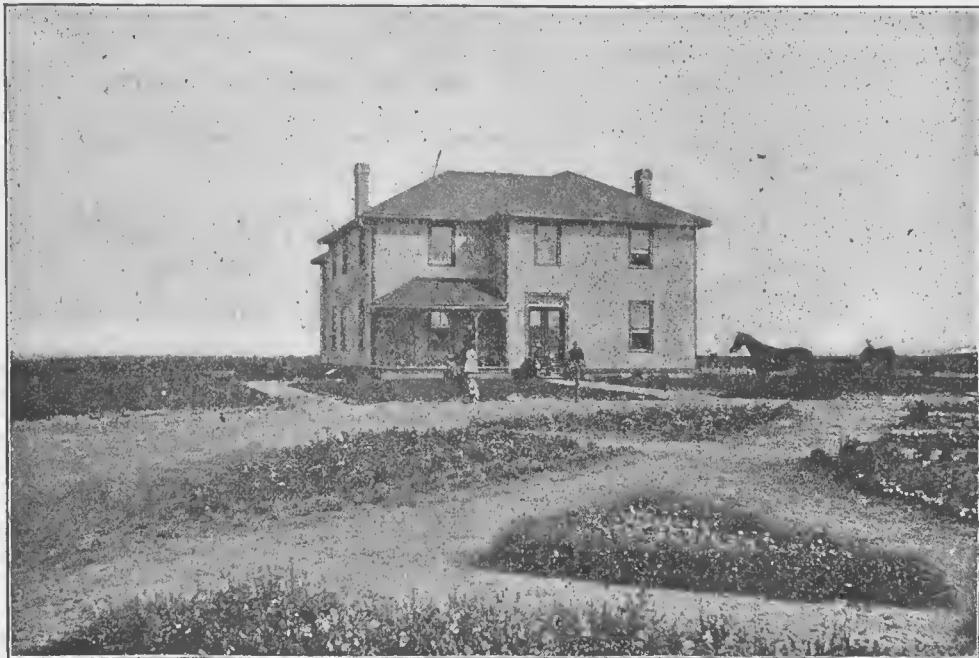
Give it new milk until six weeks old, or even a little longer. After that skim milk as long as you please, and when it begins to eat give it a little bran and chop with just a sprinkling of salt among it. In the case of its being calved before the spring, give it the finest hay that you have

bluffs for food. They will take all the exercise they want when put out for water. If you allow them to hang around the bluffs you will not make anything out of your summer's labor. What I have said so far applies to good grade cattle. It is always best to allow no stranger to go about the stables, as stock do not settle the same afterwards as they do when the regular attendant, whom they know, goes in and out of the stable.

I feel sure that if the stock we export as beef is attended to in the manner I have briefly outlined, or even better, and not in the slipshod style too often followed in the past, live stock would soon be the best paying item of the mixed prairie farm, and that we as farmers would secure an equal, or even a higher price, than the States' farmers do. Let all who have not been too good to their main paying branch of mixed farming start with an improved style of feeding, pay careful attention to the progress made, and compare it with that made under the old usual style of work, in which anything will do to winter export beef on. When you compare results you will ask yourself, where were my eyes before, that I could not see that I was throwing away a more secure gold mine on my own prairie farm than even the wonderful Klondyke is, or ever will be, in such an out of the way region?

F. L. Halliday, Winlaw, Assa., has a cow that dropped one calf the first of June and a second seven days later. Both are alive and doing well, and are marked alike.

Breed up is the advice W. H. Thompson, president of the National Live Stock Exchange, gives. He realizes that it is impossible for conditions to remain stationary. The quality of the cattle coming to market will always show either improvement or retrogression. He says the quality of the cattle now coming forward



Grounds surrounding the House of the Superintendent, Experimental Farm, Indian Head, Assa., first year after building.

this continent is sold, the Canadian beef is a great deal below the quality of that produced by our neighbors to the south of us. I, for one, cannot see why we should not send over as good beeves as the states are able to do, but that is one thing and the doing of it another. If calves were raised according to the following method there would be less complaint about the quality of the beef sent to England. I will first deal with the suckling calf. Say that it has seven months with its mother. When it is taken from its mother, I would give it one suckle per day for another month, and besides good hay, one meal per day of turnips. When it is thoroughly weaned, give it in addition to its turnips and hay, one good feed per day of green cut oats. Started in this way it is bound to make rapid gain all through the first winter. When spring comes and it goes out on the pasture, let it have one feed every night of green oats or good hay. It should be housed for the first month or so, after getting out on the pasture, or until the grass gets good, when it will not care to come in for extra feed. When the weather begins to get cold and stormy, before commencement of winter, put it up at night, and give a feed of good hay, until such time as the best of the grazing is over for the season.

During the second winter feed hay any green oats morning and noon, hay in the evening, and give the same treatment during the succeeding spring and fall, as recommended for the previous spring and fall. Next and last season that you have to feed it give during the winter one feed of hay in the morning, and at noon and evening green cut oats, and observe the same care, as already mentioned, during the first month after turning to pasture, if you have not previously shipped. During its whole life upon the farm let there be plenty of a salt and sulphur mixture in a box where the animals have ready access to it.

I will now speak of the hand fed calf.

got, and when it is out to pasture give it one pound chop and bran at midday (that is to make up for the loss of the new milk), increasing the supply as the calf ages until the fall, when it may have three pounds of chop until it is stabled for the winter, then treat same as suckler in the feed all along.



Grounds surrounding the House of the Superintendent, Experimental Farm, Indian Head, Assa., seventh year after planting.

Do not feed at any time, but always have stated times and keep to them. Keep calves comfortable but by no means allow them to get too warm. Give water first thing every morning and don't allow them to go hanging around the stables or the

to the leading stock centres shows that though great advances have been made in the quality, there is yet room for even greater advancement and breeders must not slack their efforts to get pure bred sires of the best quality.

Good Advice to Breeders.

Secretary Coburn, in his report to the Kansas Stock Breeders' Association, makes the following introductory:—

"After thirty-three years of acute observation I have arrived at these definite conclusions. The mistakes which keeps many a breeder down to or below the plane of mediocrity in business, is his failure to start with the right ideal and stick to it. The active years of any ordinary man's lifetime are sufficient for his acquiring fame, if not fortune, as a specialist in at least one breed of animals, if he starts right, breeds right and feeds right. Success in its best sense, however, will not be likely to attend him if in that time he often changes breeds or ideals. It is the fixed, determined purpose that will bring him to the desired goal, and without this it is never reached. Bakewell, the Collings and Cruickshank had it and their names are revered wherever improved stock is known or appreciated.

"The man who breeds trotters this year and crosses them with Clydesdales next year, simply because draft horses seem to be in better demand, or breeds his Jersey cows to Hereford bulls, to meet the call for white faces, will acquire neither honor nor riches. It is a great thing to excel, even with one breed; few men ever permanently succeed with more and thousands who mean well, try, only to fail, because they are not equal to properly handling any, through lack of the essential genius.

"In breeding, as in character building, a day or a false move may mar what has cost a lifetime or a fortune to make. To the beginner I would say, 'Deliberate, long in the selection of a breed and an ideal: having once adopted them, persevere to the end in the work of their better development, regardless of changing fashions or fluctuating markets. In other words, don't scatter and don't wobble.' The breeding highway is strewn with the wrecks of those who had too many purposes and experimented with too many breeds."

Stockers are a little easier in the U.S. just now, but will pick up again when feeders are wanted to fill up the feed lots for winter.

Are you preparing to fatten any cattle this winter? Why not? Feed will be plentiful, why not turn some of it into good beef, even if it is only baby beef?

A month ago it was thought that range beef would be late coming on the market, but shipments are coming forward much earlier than was then expected. Pasturage has been good and water plenty so that stock have pastured handy to water, with the result that they are making most rapid gains.

Some time ago Australian ranchmen were crying out that the rabbits were over-running the stock ranges and great efforts were made to introduce some disease among them that would exterminate them. Now, however, a new industry has sprung up. Canning rabbits in Australia has become quite an industry. A London paper says that Paris consumes ten million rabbits per year, and Great Britain seventy millions. There is no class of live stock that will multiply as rapidly as rabbits, and if the world had to depend on them for meat supply it would not suffer from famine, providing Mr. Rabbit got a fair start. The rabbit nuisance is about the greatest trouble next to the drought that Australian stockmen have to contend with, and if rabbit meat became popular Australians would have a bonanza.

WOODBINE FARM, CARBERRY, MAN.

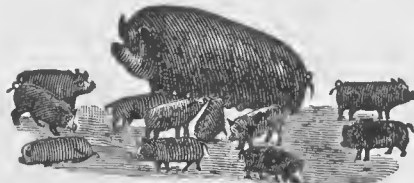


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A few choice 3-months-old boars for sale, sired by Lord Hastings (2515). Booking orders now for fall pigs.

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GOLD STANDARD HERD OF REGISTERED BERKSHIRES.



SALES BOOMING. CUSTOMERS PLEASED.

Spring boars all sold. A few nice young sows left, from 4 to 6 months old; also a grand litter farrowed July 19 from "Rosamond," the mother of prize-winners; also a lot of August pigs for sale. Some grand young B.P. Rock cockerels, \$2 each. Correspondence solicited. Address—

J. A. MCGILL, Neepawa, Man.

Thorndale Stock Farm

JOHN S. ROBSON,
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Breeder of SHORTHORNS. Long established, reliable pedigrees; straight dealing always. Young stock of both sexes always on hand. Write early if you want them. 2185



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Leicesters for sale—

40 RAM LAMBS,
8 YEARLINGS
40 BREEDING EWES.

Box 193, BRANDON.



Ridgewood Stock Farm, Souris, Man.

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BREEDER OF

High Class Herefords

A few early Bull Calves for sale.

JERSEY BULL FOR SALE.

No. 50202. 2 years old in February. Solid color, black tongue and switch. Took 1st prize in Winnipeg as calf.

H. R. KEYES, Midway, Man.



CHOICE-BRED

Shorthorns.

For sale a number of Shorthorn COWS and HEIFERS, a well bred and well made lot.

JOHN RAMSEY, Priddle P.O., ALBERTA.

Plain View Stock Farm.

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Importer and Breeder of

SHORTHORNS, COTSWOLDS, and BERKSHIRES.

My stock are strictly in it yet—see Winnipeg Fair prize list in this issue.

Young stock constantly on hand and for sale. Write for prices, or call and see. Visitors always welcome.

EVERY STABLE REQUISITE

Correspond with us if you require new or second-hand Carriages or Buggies of any description. New or second-hand single or double Driving or Work HARNESS, SADDLES, BRIDLES, RUGS, ROBES, BLANKETS, etc.

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D. McBETH, OAK LAKE, MAN.

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Clydesdale Horses

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Shorthorn Cattle



I have a number of promising young Stallions for sale.

My Shorthorn herd is headed by "Best Yet," bred by Hon John Dryden, of Brooklin, Ontario. A number of young stock of both sexes, all registered, are for sale, and can be recommended as first-class animals.

Correspondence solicited. Prices right.

R. REED-BYERLEY, Cook's Creek, Man., breeder and importer of Clydesdales. Headed by Gem Prince, sired by Cedric. Correspondence solicited.

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POLAND CHINA SWINE



Our herd are direct descendants of such noted hogs as Canada Wilkes, Guy Wilkes 2nd, M. P. Sanders, and the Tecumsehs. Nothing but first-class stock shipped. Write for what you want; satisfaction guaranteed. Prices always reasonable. Nothing but choice sows kept for breeders. We are now booking orders for spring pigs of 1899. We have a few good winter pigs for sale. Write and describe what you want, and we will endeavor to treat you as we would wish to be treated.

Ayrshire Cattle. Red Tamworth.
IMPROVED YORKSHIRE & BERKSHIRE PIGS.

A good selection now on hand, and will quote close prices to reduce stock.

Caldwell Bros, Briery Bank Farm, Orchard, Ont.

When writing advertisers, mention The Farmer.

Baby Beef.

The older the season gets the more clearly it is being seen that there is likely to be a great scarcity of cattle for the feed lots this fall and for market as well. Shrewd western feeders in the States saw this shortage coming and commenced last year to prepare for it by feeding baby beef. The great success of lamb feeding led to the thought that calves could be made a source of as good a profit, and at the same time furnish as toothsome a delicacy as the lamb, if the youngsters were taken and given all the alfalfa they could eat, together with a topping out on corn, and linseed meal.

Particulars of one of the first bunches of calves put up to feed for baby beef have just been made public. They were fed at H. Collin's, Colorado. Of a bunch of 70 the following are the particulars: At the time the calves were placed on feed in December the heifers weighed 412 lbs. and the steers 413 lbs. March 7 the heifers weighed an average of 516½ lbs. and the steers 519½ lbs., and one steer which did not get in with the bunch, 570 lbs. On April 7th they averaged 572 for the heifers and 579½ for the steers, with 680 for the odd one. May 7th the aver-

per day, which was increased to 13 lbs. for the last month. While the potatoes were being fed the calves did not eat nearly so much of the alfalfa, but took a great deal of wheat straw, seeming to prefer it to the hay, and when the potato feeding ceased they went back to the heavier hay ration. These animals averaged in January 481 lbs. On April 24th they averaged 656½ lbs., and on May 24th, 730, a gain of about 2½ lbs. per day. On the last date one of the steers weighed 825 and another 880 lbs., all of this lot being steers.

The prospects at present are that a large number of calves will be fattened in this State this winter. In the first experiment one-half of the calves were from the Texas range and the other half from Utah. The feeder could see no difference in the gain made by the two bunches. They were all Hereford and Shorthorn grades.

We don't need to go so far away from home, however, to get an example of profitable feeding along this line. At the Brandon Experimental Farm last year one of the grade cows produced a pair of twin calves from the service of a Shorthorn bull. They were raised by hand, and weighed at eleven months old 850 lbs. each, and a butcher offered four cents a lb. for them, or nearly \$65 for the two

ings is to live and reproduce their kind. The faculty of adapting themselves to their "environment" is one means by which the purposes of Mother Nature are carried out. This faculty of adapting itself to its environment is as important for a domestic animal as for those that never knew human control.

The more completely the wild animal is left free to the guidance of its hereditary instincts the more perfectly will it reproduce its ancestral form and qualities. Whenever any animal comes under the control of man it becomes plastic in his hands, and the law of heredity is modified to a greater or less extent by the skill or caprice of its human moulder. The process of change from the original type to the type desired by the moulder is considerably influenced by the law which scientists call "reversion to type," or "atavism," in which the off-spring from the new departure may, after several generations, suddenly and without explainable cause, show very decided resemblances to some ancestor more or less remote.

One of the methods most potent in the hands of the skilled breeder is the selection and mating of two animals of the same breed most likely to produce as the result of that mating an animal more



Corn and Cabbage at the Brandon Experimental Farm.

age was 632 for heifers, 644 for steers and 740 for the odd. June 7th the weights were 695, 712 and 832 lbs.

Before they were placed in the feed lots they were contracted to be made to average 700 lbs. or over at some time in June, and were to be paid for at the rate of five cents per lb. at the yard, the animals to be fed as usual in the morning and shut away from feed after 8 o'clock, the weighing to be done at noon of the same day, so that the feeder stands none of the shrink incident to shipping to the river markets.

The method of feeding was to put the calves in the pens in December last and at once begin giving them all the alfalfa they could eat, together with a small quantity of bran and corn chop, mixed half and half. As they became more accustomed to the grain, the ration was increased in quantity, and the proportion of bran decreased until it was 1-6 and the corn 5-6. During the last month 1 lb. of oil meal per day was added to the feed, and Mr. Amos, the feeder, considers it a valuable constituent of the ration.

Another lot of 93, fed by a well-known feeder of the same place, were fed along the same lines as the above lot, except that he used no oil meal, and instead of that fed potatoes during February, March and April, with a grain ration of 10 lbs.

calves before they were a year old.

What The Farmer would like to know is, why cannot our farmers fatten their own calves during the winter and sell them in the spring as baby beef, instead of for stockers? The difference in the price obtained for these animals would surely make a good profit for feeding them.

Nature and Art in Breeding.

Natural selection is exemplified in the breeding of all wild animals. The boss buffalo had to win and maintain his position at the head of the herd by being able and willing at all times to prove his supremacy by the ordeal of battle. He in his turn gave place to the best and most powerful of the younger generation. The same is true of the other varieties of wild animals or such domestic animals as have run wild, of which Australia and the Western States have supplied recent examples. The vigor of the dam is tested by her ability to withstand the perils and hardships to which she is exposed. The "survival of the fittest" is provided for in this way and the vigor of the off-spring from such animals is thus as far as possible ensured. Weaklings among their offspring are weeded out in the same way. All that nature asks of her wild-

completely in accord with his ideal than he has yet been able to find. It was this skill in selection and mating, amounting, as has been said, almost to genius, that enabled Robert Bakewell to produce in a comparatively short period domestic animals of different kinds so greatly superior in many desirable qualities to any thing ever before seen. He was not equally successful in everything he tried his hand on, but in all round achievement as a moulder of domestic animals to the type he sought he has never had an equal. Without some amount of this faculty, kept all the time in active exercise, the would-be breeder of pure-bred, or, indeed, of any kind of stock will be all his life more or less a failure. The very highest skill may occasionally come a good way short of its ideal, and a poorly skilled hand may occasionally turn out something good. But without a whole-souled devotion that grudges no pains and devotes both skill and thought to the work very little can be achieved, and occasionally we find some men saying, "Our stock is running down in our hand." Sometimes a man of this stamp clears out his old stock and begins anew with something more costly. Without a corresponding change in himself such a change will be futile. Some people say the sire is half the herd. We say the man is a bigger half still.

Intellectual Aspects of Pure Stock Breeding.

In Farmers' Bulletin No. 98 of the U.S. Agricultural Department we find the following point made. It is quite correct and well worth noting:—

"Quite apart from the enhanced market value, pure-bred stock has another value which is not always estimated at its true worth—the value of its influence upon the intellectual life of the family. One only needs to go into the family home on the farm where pure-bred cattle, horses, sheep or swine are reared to be convinced of the reality and the beneficence of this influence. If other proof is needed it may be had by comparing or contrasting a home on such a farm with one on the farm where scrub breeding and low grade mixed farming are followed. It has been even said that all wheat farming debauches the mentality of the farmer. While this is probably too strong a characterization, yet it graphically suggests the mental vigor promoted by the life on the stock farm.

"Then, too, the study of nature's methods, the mysteries of heredity, the influence of environment, bring one into intimate sympathetic touch with the great forces or laws that wait upon and reward our intelligence, or perchance punish our ignorance. The more than human response in affection and absolute trust which the horse and even the Southdown, will make to the master's care teaches the the highest lesson concerning our obligation to others. And all these lessons are so easily, so imperceptibly, transferred to other planes of life, where they influence conduct and destiny."

The Cheap Feeding Season.

The Farmer has repeatedly pointed out that the very cheapest season of the year in which to lay flesh on any animal we wish to fatten is between the middle of September and the end of November. That is the season when nature provides for the protection of all out-door creatures by providing ripe foods and seeds by means of which flesh can be laid on and vital force stored up to enable the animal system to withstand the errors of winter. That is the season, too, when undisturbed by insect pests and in the genial atmosphere of the Indian summer greater gain can always be reckoned on than in the heat of summer. This principle is fully recognized by Secretary Curn, of the Kansas Agricultural Department. Speaking of "Pork Production," he says:—

"There are two seasons of the year when the greatest gains can be made in hogs of the same type and under similar conditions with the same amount of corn. These are in the early spring before the weather becomes excessively hot, and in September, October and November, before it becomes excessively cold. Prudent, farmers, therefore, aim to do the bulk of their feeding in these months."

The Bite of a Hog.

An eastern exchange gives the following advice in regard to the bite of a hog, which should be remembered: "There is great danger of blood poisoning if a hog bites the flesh. There is no poison in the hog's teeth as there is in the fangs of a poisonous snake. It is rather the poison which comes from the saliva, as the hog is a very indiscriminate feeder and not at all cleanly. When a hog is made angry the amount of its saliva is

greatly increased and the danger is greater. Even a slight contusion from a hog's tooth should be promptly washed out with some antiseptic. Dilute carbolic acid, one part of the acid to 2,000 of water is good and always a reliable antiseptic. Some should always be kept where it can be handily procured, to put on cuts or outside injuries received on any part of the body. It will greatly hasten their healing.

Range cattle marketed in Chicago are bringing high prices, and if these prices keep up all fall there will be a big thing in it for stockmen.

A rancher showed us a sheep's jaw bone that looked very much like a case of lumpy jaw. He said the sheep had been bitten by a coyote and had lived for a year and a half afterwards. He thought the peculiar condition of the bone was proof that the bite of the coyote was poisonous.

May Sprague, the three-year-old filly shown by J. A. Mullen, Cypress River, in the carriage class at the Winnipeg Industrial, was pronounced by the judge to be an exceptionally fine filly for her age, and he advised breeding her to Power's imported Hackney stallion, March Past, to get something extra.

A Wart Cure.—Wet a finger in turpentine and rub it on the warts once a day for three or four days, and in two or three weeks there will not be a trace of the wart to be seen. Use the turpentine rather sparingly, it being of a penetrating nature and quickly penetrates the root of the matter.

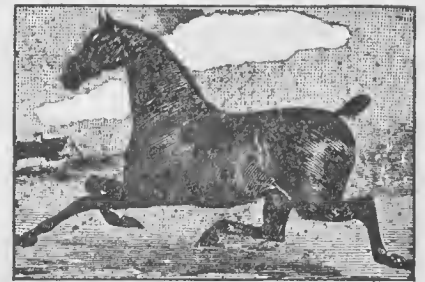
If the present corn crop in the U.S. is safely harvested there will be plenty of it to feed stock and there should be a good demand for stock of all kinds for feeding purposes. Already the demand for feeding sheep shows considerable strength. Many American farmers lost money on sheep last year, but still there are plenty who made money fattening lambs and they will be trying it again.

Foreign buyers and dealers in high-class horses like solid colors, yet have no grave objections to white ankles or a star in the forehead. But piebald animals, or excessive white markings are objectionable and are only condoned when the animal is particularly high-class in conformation, style and action. White markings are most in favor in Belgium and France, where almost anything that is conspicuous is fashionable.

To cure a hide properly it is first necessary to trim it by cutting off what does not belong to the hide, such as horns, tail-bones and sinews, then spread the hide on the floor and sprinkle salt evenly and freely over the flesh side. In this way, pile one hide on the other, flesh side up, head on head, tail on tail. It will take a week or more to cure hides thoroughly. When hides have lain over a week in salt, they will then do to tie up and ship, after having shaken off the surplus salt. For a large heavy hide it will take about a pail of salt, and a less quantity for a smaller hide or calfskin in proportion to size. Green butcher hides shrink in salting from 10 to 15 per cent., consequently salted or cured are worth from 1 to 2 cents more than green.

The Ontario Agricultural College has just been presented by Lord Polwarth, the well-known Border Leicester breeder, with some valuable specimens of that breed from his own flock at Mertoun.

Lord Polwarth's son, when in Canada two years ago along with the British Scientific Association, visited the college and noticing that no specimens of that breed were on the farm, hinted that he would try to send out a sample the first favorable opportunity. There are three shearling ewes and a ram lamb, and no doubt they will show to advantage later on. This flock has been maintained on the Mertoun estate for a century and handled with consummate skill by a succession of shepherds whose names are familiar to all Border Leicester men. The high quality of the Mertoun flock is an established fact. Although no sheep has ever been put in the show ring by the noble owners themselves, there is hardly a show flock in the world that has not in it representatives of Mertoun blood. Their presence at the Ontario Agricultural College will do much to familiarize Canadians with the very best types of this noted breed, which for early maturity and other desirable qualities holds its own with all other breeds.



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A number of well broken single drivers and teams with one, two and three crosses of hackney blood. Also several Hackney Stallions, pure bred and registered. Can also supply yearling Hackney stallions with three crosses (unregistered).

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500 HEAD

of selected farmers' DRAFT HORSES from 1200 to 1600 pounds.

HIGH BRED CLYDES, PERCHERONS AND SHIRES.

Broken. Delivered in car lots to any part of Manitoba at the lowest market prices.

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Well Graded SHIRE HORSES

For sale. Also light blooded stock. Cross 8 brand, graded with imported stud since 1884. Apply to—**P. S. Dowson, Miles City, Montana, U.S.**

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AN EASY-SHAVING RAZOR.

Used by some of the leading barbers in Winnipeg. Three qualities, \$1.25 \$1.50 \$1.75 post paid.

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We handle Wheat and coarse grains for farmers at any station in Manitoba and the Territories. Top prices and satisfaction guaranteed. Write or call on us.

P.O. Box 147, BRANDON, MAN.



Answers to Questions.

By an Experienced Veterinarian.

As it is desired to make this column as interesting and valuable as possible to subscribers, advice is given in it free in answer to questions on veterinary matters. Enquiries must in all cases be accompanied by the name and address of the subscriber, but the name will not be published if so desired. Free answers are only given in our columns. Persons requiring answers sent them privately by mail must enclose a fee of \$1.50. All enquiries must be plainly written, and symptoms clearly but briefly set forth.

Qualification of a V.S.

S. F. C., Lintrathen: "What qualifications are necessary to become a V.S.? What books must I study?"

Answer.—To qualify for practice as a veterinary surgeon in the Province of Manitoba you must first graduate from a recognized veterinary college, which has a course of not less than three sessions of six months each, you must then pass an examination before the board of the Manitoba Veterinary Association, and pay a registration fee of twenty-five dollars. For particulars as to text books, etc., you had better write to the registrar of McGill University, Montreal, for a calendar, in which you will find all necessary information.

Ocular Diphtheria.

Mrs. J. J. C., Saskatoon: "A number of my chickens are going blind. Their eyes appear to get weak, run water and are dull looking and in a day or two are covered with scum, when they are totally blind. Examined under a glass the eye appears to be eaten out. I separated the sick ones from the rest. What is the trouble?"

Answer.—Poultry are affected by different forms of diphtheria, one of which affects the eyes in the manner you describe. It is a contagious disease and will spread gradually from fowl to fowl by means of the germs contained in the discharge from the eyes. The first steps in trying to get rid of it is to separate the healthy from the sick and give them an entirely fresh roosting place and run. Examine them frequently and separate any that show symptoms of the disease. To cure the eyes of those affected procure from a druggist a solution of nitrate of silver, ten grains, to one ounce of distilled water, and drop a little between the eyelids with a feather once a day.

Treatment of Curb.

B. F., Seeburn, Man.: "Will you kindly let me know what is the best way to remove a curb on a three-year-old colt. Last spring a three-year-old colt had a curb come on both hind legs. He was lame on one leg for a few days, when we blistered the curb and gave him rest. This seemed to help to reduce the curb and removed the lameness. Repeated the blister, but it did no good. Can these curbs be removed? If so, how?"

Answer.—The repeated blisters you have already applied have probably accomplished all that can be expected from that form of treatment, and it will be necessary to have the curbs fired in order to remove them. This is an operation requiring skill and care and should only be done by a veterinary surgeon.

Ulcerated Leg.

Subscriber, Springfield, Man.: "Will you kindly tell me what is the matter with my mare. She had a hard swollen hind leg and then there were two lumps formed inside of the fetlock about as large as a walnut, which burst after a time. They were full of blood, are still running and there are two holes that you could put a finger in. She has been bad for a month and at first could hardly put her foot to the ground. I have been bathing it with carbolic acid and warm water, but it does not get any better. It seems to be spreading around the leg. The mare also has worms. Please tell me what is the best cure for her leg and how to get rid of the worms."

Answer.—Your mare has had an attack of lymphangitis of the leg followed by ulceration at the fetlock. These ulcers are often very difficult to heal and generally require to be scraped to the bottom with a sharp curette to remove the dead tissue and start the healing process. Afterwards they are washed with antiseptic lotions and dressed with dry absorbent dressings of gauze and iodoform. To remove worms give the following powder in a bran mash after starving the mare for twelve hours: Santonine, half an ounce; powdered areca nut, one ounce; two hours after the mash has been eaten give her a physic ball and continue the bran mash diet until the result appears.

Weed Poisoning.

G. F., Theodore, Assa.: "Will you kindly advise me, through your columns, about the following: I have a cow with fourth calf in full milk suddenly taken sick. The udder and teats became inflamed, also nose, slight discharge from eyes. At the present time the nose is still of a mottled appearance. The teats and udder surrounding is peeling. It is thought to be a case of weed poisoning. It has been on the cow about a week. The neck is also scaling, in fact it appears to have affected the whole body from head to tail."

Answer.—This is a case similar to several reported in previous issues of this paper, where it has already been discussed in this column. The effects pass off gradually and a cure may be hastened by frequent bathing with a solution of bicarbonate of soda and water.

Ulcerated Rhinitis

H. C., Red Deer, Alta.: "A number of my cattle have been afflicted with a complaint, the first apparent symptom of which is a difficulty to breathe, the animal sometimes finding it almost impossible to get its breath. Later a discharge from the nose sets in, and in one or two cases the cartilage has become putrid and hung from the nose. They have been able to eat all right, but continue to get worse. There has been a good deal of rain and dampness here this season, which may have something to do with the trouble."

Answer.—Continued dampness would, no doubt, aggravate the symptoms of this disease, but it is not likely such causes would produce such a severe attack, unless some other agency were also at work, such as a specific germ. You should separate the healthy from the sick and treat the latter by inhalations of steam medicated by the addition of cresol or of carbolic acid to the boiling water. An astringent and antiseptic powder blown into the nostrils with an insufflator or powder gun would also do good.

Shoulder Abscess.

Subscriber, Newdale: "I have a three-year-old horse that had his shoulder bruised

by the collar during seeding. A lump formed about the size of a teacup, about half way down from the withers. I took him to a V. S., who cut it open and cleaned it out. He told me to bathe it twice a day with warm water and salt and gave me some liniment to inject into it. That is over a month ago, and it is still running. The horse was not lame until a week ago, when I rode him to my neighbor's in the morning. He was all right that night, but next morning was so lame he could not move, and very much swollen down the shoulder. He is some better now, but still a little lame and running from the sore. I enclose stamp for reply. Kindly send reply at once and inform me what to do with him. Do you think that the trip to my neighbor's caused the lameness and extra swelling?"

Answer.—In asking for an immediate reply by mail you have failed to comply with the conditions printed at the head of our veterinary column, or we would have gladly complied with your request. In treating your horse's shoulder the first thing is to make sure that the opening is low enough down to drain the abscess to the bottom. If there is a cavity below the level of the opening, this cavity will always remain full of pus and only the overflow will escape. If such is the case use the knife fearlessly to enlarge the opening in a downward direction until sure you have reached the bottom of the abscess. Then bathe daily with hot water and afterwards, with a syringe, wash out the abscess with a lotion composed of creolin, one ounce; water, one quart. Get an insect powder gun, place an ounce of iodoform in it, and after syringing the cavity daily, blow a little iodoform into it.

\$20 REWARD.

Strayed from near Rounthwaite:—Bay pony, white face, 4 white feet, branded I B on left shoulder, 5 years old; light bay colt, 1 hind foot white, 2 years old; both mares; supposed to have gone west of Rounthwaite.—E. C. JACKSON, Rounthwaite.

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How to Secure Untainted Milk.

The good people of Winnipeg have been exercised very much lately about their milk supply. It is a question of grave concern and will become more and more important the larger the city grows. Now is the time for the city authorities to take hold of the question and put it on a proper footing. In all the large American cities the proper handling of milk is an important question, and enterprising dairymen are found who take extra trouble to give their customers absolutely pure milk and for this their customers are willing to pay an extra price to compensate them for extra care. In Germany the municipal authorities of the large cities have been looking after the milk supply and, while there last year, Dr. McEachran, the chief Veterinary Inspector of Canada, made enquiry as to the systems followed there in handling milk. He found the best system in Berlin, and speaking of the movement for purer milk in that city, he says in his report:—

"In 1881 the first steps were taken to provide Berlin with pure and cheap milk as well as good dairy produce, and a small building was opened for that purpose with three sale wagons. In less than two years this was found quite inadequate, the public sympathy being so fully offered to the enterprise that it became necessary to construct at once a central dairy on much larger dimensions. These buildings were gradually increased in size, and the business done became so extensive that sixteen years later, when I visited the institution, instead of three sale wagons being employed, as at first, there were one hundred and fifty-nine.

POPULARITY OF THE PLAN.

"Regarding the distribution of milk itself at the end of the first year of the enterprise nearly two million and a half litres (a litre is about three pints) were supplied to the city and in 1896, nearly twenty-seven million litres. At present, the daily quantity produced seventy-five thousand litres, meets the needs of some forty-five thousand householders and is obtained from dairies containing in all fourteen thousand cows.

"In connection with the production of this milk, the following statistics may be of some interest: For the proper working of the apparatus necessary for the cleansing of vessels containing the milk a daily quantity of from twelve thousand to fourteen thousand kilograms of coal is employed. The place is lighted by sixteen hundred incandescent and fifty-two are electric lights and the power necessary is supplied by three dynamos of over a thousand amperes. In connection with the institution, there are twelve hundred workmen, many of them specially employed and retained in special houses, such for example as locksmiths, tinsmiths, saddlers and other like workmen, and a special printing house has been opened in connection with the institution. About one hundred and eighty wagons and two hundred and forty horses are required to carry on the delivery work as it is at present. Not only do the wagons carry ordinary milk, but likewise whey; the best fresh milk for children, sterilized milk for children, cream, skimmed milk, butter milk, butter and various kinds of cheese, and arrangements are made whereby various kinds of fresh fruit are carried about on the same wagons.

"Having collected the milk from about one hundred and thirty different sources, there are daily brought to the dairy about seventy-five thousand litres. This having been tested as

TO ITS GOOD CONDITION,

it is then for the most part filtered through gravel, and in this way is freed from the presence of a large number of micro-organisms, and is then rapidly cooled and brought to the consumers in this form. The second portion is centrifuged, thoroughly cleansed and divided into cream and skim milk. In this way cream is reduced to two different qualities, or is used for the manufacture of butter, the yearly production of which is 250,000 kilograms. The skim milk produced is very much favored and is a cheap form of nutrition. About ten thousand litres of this are sent out daily. A third portion serves for the manufacture of cheese, in which the soft cheese of the French variety occupies the most prominent place, Roquefort, Camembert, etc. Two million litres of milk are employed in this way every year. This cheese is sent throughout Germany to all the larger cities of the empire, where it is in great demand.

"What is called children's milk is obtained from farms whose cattle have the whole year been fed on dry food. The strictness with which Berlin has thus provided for unadulterated milk has had most favorable results in the quality of the milk, and the improvement of the milk in general has been most marked and has resulted in the diminution of the adulteration with water of from 14.1 per thousand in 1879 down to 3.6 per thousand in 1886, as testified to by

THE OFFICIAL INSPECTION.

"There is, undoubtedly, too, another evidence of this benefit in the diminution of mortality in children, whereas during the years of 1871 to 1880 thirty per cent. of children died in the first year. In 1881 it was lowered to twenty-seven per cent., and in the present year down to 28.8 per cent. While, of course, undoubtedly, other factors have played an important part in the improvement of mortality, such as improved dwelling places, sewers, etc., nevertheless the improvement of the milk, which is almost the only nourishment for children under one year, must be recognized as having the greatest influence in this respect.

"From the small developments mentioned above up to the great increase in milk supply and analogous products, there has been a further development as a result of the same enterprise. The by-products in the manufacture of cheese, butter and such like products must be mentioned, such articles as lactic acid, lactose and various preparations of casein, all of which find a market in various parts of the country, as well as being exported for use in pharmacy, dye factories, paper, textile industries and like industries. So much has this become

AN ESSENTIAL FEATURE

of the dairy that special technical laboratories have been constructed.

"The bacteriological study of milk and its products has become so important in Berlin that it has been found necessary to establish an experimental station in which all the essential scientific questions concerning milk infection can be worked

SEPARATOR SUPERIORITY.

There are thousands of people in this world who, when they buy an article of any kind, are satisfied with nothing but the best. This is as true of the creameryman as it is true of other people. This "buying the best" has come to be recognized as a wise business policy, because it involves a great measure of economy. So long as a creameryman does not know that he has absolutely the best machinery and appliances, just so long will he be dissatisfied in a measure, and in doubt as to how much his profits might be increased if he had the best. No such lingering doubt enters the mind of the man who buys a



SHARPLES TUBULAR SEPARATOR

for if he has taken the pains to investigate, or even to make casual enquiry, he must know that he has the best Separator that can be made or that money can buy. Of course there will be those who will try to dissuade and deceive him; they will tell him that something else is "just as good," and, indeed, some of these deceivers may go so far as to claim that something else is even better. Do not be deceived, however. The SHARPLES TUBULAR SEPARATOR will do everything that any other Separator can do as regards effectiveness, and infinitely more! There is nothing with which to compare the Tubular. It stands alone in

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High Quality of Cream and Butter,
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out thoroughly. Such, for example, is the effort to obtain in pure culture the various bacteria which render milk infectious. In the same place inoculation experiments upon the smaller domestic animals are carried on. Feeding experiments on both the larger and smaller domestic animal are also thoroughly carried out.

"A special laboratory for the chemical analysis of milk has likewise been created. In the year 1896 no less than 26,480 analyses were made. In consideration of these various features, the existing conditions of the milk supply are the most favorable that can possibly be obtained. Formerly the various suppliers of milk carried on a wholesale milk adulteration, and at the present time, as will be seen from the analyses, this adulteration has been

REDUCED TO A MINIMUM.

"To illustrate the importance of this analytical work, it may be interesting to note that in 1881 only 328 analyses were made; in 1891 the number had increased to over 16,000, and in 1896 nearly 27,000 analyses were made. All in all, up to the end of the year 1896 there have been 202,533 analyses carried out. Such a quantity of material as this and such a multitude of analyses is unknown in any other institution in the world. In the various departments of this work, which controls the purity of milk, there are various officers in control. The superintending of the health of all the cows concerned in the milk supply is allotted to two veterinarians approved of by the state.

"Special savings banks, restaurants and schools are arranged in connection with the institution, as well as smaller and larger societies of one kind or another, and every care is taken of the welfare of employees when taken sick, and for the families of those who die during their term of service in this institution.

"In testimony of the excellence of this management, one sees medals of all kinds, the result of exhibitions both at home and abroad."

Preservatas.

"Is it right or wrong to use chemicals so as to make milk and butter keep longer?" Such was the question asked the other day by a thoughtful reader of The Farmer. Where the supply of milk in English cities is the principal business of the dairyman it is generally understood that chemical preservatives have been used by dealers to a dangerous extent. The original producer puts in what he thinks will keep his milk sweet till it is sold. The wholesaler may give it another little dash of the same stuff or something else nearly similar and the retailer does the same with the result that the final blend is very injurious to the stomach of the consumer, especially if that consumer is an infant or young child.

In this country there is little chance of such abuse so far as milk is concerned. But the use of preservatives in curing butter is not such a remote possibility, and we have even heard it hinted that some use has already been made of this preparation as a means to the longer preservation of butter meant for distant markets.

We know no more reliable guide in investigating this question than is supplied by the report of what took place at the last convention of the cheese and butter association of Western Ontario. A more thoroughly representative gathering could hardly be found on this continent, and to those professionals who have not yet seen it, we should strongly advise that they should try and secure a copy without delay. On about every fine point in practical cheese and butter making there could be no more suitable guide than this report

issued by the Ontario Department of Agriculture.

At that gathering the question was asked, "has borax as a preservative of butter been found beneficial?" The answer, given by Professor Robertson, was as follows:—

"The use of preservatas of various sorts, mainly composed of borax, is very common in the foods used in England. Nearly every creamery in Australia and New Zealand uses large quantities of preservatas in their butter. I have used preservatas in butter very often as test work, and I find the butter will keep its flavor very much better when a small proportion of preservatas is used, than it will when nothing but salt is used. There was a prejudice in England for a long time which took the form almost of protection in favor of the home product, that preservatas was an adulteration, but the courts have held that one per cent. of preservatas may be used without any fear of being an adulteration. In experiments we found that one-fourth of one per cent. of preservatas adds to the keeping qualities of butter very much, especially after the butter is taken out of cold storage. Preservatas consists of 90 per cent. of borax and 10 per cent. of salt. I am not prepared to advocate its use in Canada. I think we have gone too far in boasting that we have used nothing but salt as foreign matter in butter. The high grade butter in England has no salt in it, and it might be well for us to make further improvements—if it is an improvement."

Mr. Hodgson, the well-known exporter of Montreal, who was present, afterwards presented the business aspect of the same question, as follows:—

"There has been in England a great agitation started up against the use of lactic acid in creamery butter. I have had several orders from England to ship saltless butter with $\frac{1}{2}$ to 1 per cent. of preservatas in the butter. I have already shipped 100 boxes, mostly all from Quebec, and I have very high commendations as to the keeping qualities of the butter, even though there is not a particle of salt put in. Now we can send four or five hundred boxes a week of saltless butter. We must tell England this acid cry is all folly, or we must send them what they like, and I would be pleased to know exactly what Professor Robertson thinks about the matter; I am between two fires. England has raised a cry against using it, and prosecutions have been in force time and again, and I think Professor Robertson should speak out as to whether the use of preservatas is right or wrong."

Professor Robertson—The statement by Mr. Hodgson that he sent butter to England with $\frac{1}{2}$ per cent. preservatas in it, and that the butter has pleased the people there, is a contribution to our information that is valuable. I am in no position as a Government official to say for or against the use of preservatas beyond this, that my own judgment is, and the courts of England have held, that 1 per cent. of preservatas in butter is harmless, and is not an adulteration, and that you can keep butter by adding $\frac{1}{4}$ of 1 per cent. in addition to $\frac{1}{2}$ ounce of salt per pound. A few men agitated against its use, but the courts held that there is no adulteration in using 1 per cent. of it. You know that salve they use on babies' mouths—honey and borax; the babies will swallow down almost more in a day than a man gets in his butter, so the doctors say, and you cannot call it injurious to the health.

A Member—How is preservatas used?

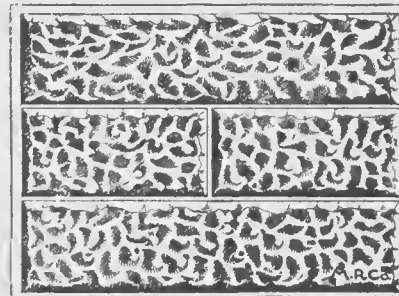
Professor Robertson—It is used in the form of a powder, and mixed with the salt and put into the butter that way. I have used it in that way, and four months after the butter was made it tasted as if it had not been made more than four days. A

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Sole Agent for the Dominion. 1874

half ounce of salt and $\frac{1}{4}$ of 1 per cent. of borax with one-twenty-fifth part of an ounce of preservatas are the proportions I used with so much success. One-half ounce of salt per pound, $\frac{1}{4}$ of 1 per cent. of preservatas is equal to one-twenty-fifth part of an ounce to the pound.

With such evidence as is given above, it may soon be found desirable to use preservatas or a similar preparation, the true nature of which is known, in putting up butter meant for use in distant mining camps or for foreign trade. Perhaps somebody may be trying it now in that way.

Rapid Growth.

In 1891 dairying had fallen to such a low ebb in Prince Edward Island and the farmers were so discouraged that they said a cheese factory could not pay. Professor Robertson, after seeing the rich pasture that abounds throughout that fertile island, was convinced that it was just a place where dairying should succeed, and therefore offered to establish a factory and run it until he could demonstrate to the people that a cheese factory could be successfully run. A factory was started in 1891, and was a success from the first. Next season there were seven factories, the following year about sixteen, some only running a short time, and so the work has grown and developed as the people learned better how to care for their cows.

In 1898 there were in operation 34 cheese factories whose product amounted to \$229,249.71. Two factories made nearly 100 tons of cheese each, which sold for an average of 8.41 $\frac{1}{2}$ cents a pound. Sixteen of these cheese factories made butter part of the year, making product valued at \$43,000. Seven other creameries made products whose value amounted to \$80,000, while the central creamery at Charlottetown, receiving cream from four skimming stations during the winter, made up a grand total for the island of \$264,557.63. This is not a bad year's work considering that the dairying industry is but in its infancy.

A Test for Bogus Butter.

The close imitation of butter makes it impossible sometimes for the housewife to distinguish oleomargarine from low grades of butter; but a sure test is to put them in a frying pan and heat them. Pure butter when heated will give forth a pleasant odor, and while melting there will be a spluttering noise, and a brown crust will be left on the pan. On the other hand oleomargarine will send forth an odor that smells like tallow when heated, and it becomes very dark instead of brown. It boils quickly, and does not sputter as butter because there is no water in it to cause this noise. This test is invariably correct and never deceives, even though one knows little about the two articles.

It is now also possible to test chemically renovated butter and determine its character. It had been supposed previously that the constituents being the same in both fresh and renovated butter, would act the same when chemically analyzed. But it appears that butter, in deteriorating, undergoes a chemical change that the renovating process is not able to reverse. The fat of renovated butter has a more or less crystalline structure, while the fat of pure fresh butter is devoid of any such appearance. If pure butter be examined microscopically with polarized light and a selenite plate, the field will

be uniformly colored in any position of the analyzer, while renovated butter will show a mottled, many-colored field. Without a selenite plate and without the analyzer in proper position pure butter shows a dark field of almost uniform appearance. Renovated butter, under similar conditions, gives a dark field marked with white patches. The peculiar appearance of renovated butter is due to the fact that the fat has been melted and in cooling has assumed a partially crystalline structure. The completeness with which crystallization from fusion occurs and the size of the crystals depends on the slowness with which the melted substance cools to its solidifying point. The slower this change of temperature takes place the more perfect will the crystallization be. In renovated butter, on account of the great rapidity with which the melted fat is solidified, we only get an incipient crystallization. If butter is melted and then allowed to cool slowly, large crystalline masses are formed, globular in shape and showing a distinct cross by polarized light.

Holstein Breeders' Proposition.

The Holstein breeders of America are pushing, progressive men and determined to put their favorite animals to the front. Representatives of this breed have won many tests and now their owners are aspiring for fresh laurels, as the following communication from the secretary will show:—

The Holstein-Friesian Association of America hereby extends greetings to all associations of breeders of pure-bred dairy cows, and invites them to participate in a competitive prize contest for the production of pure butter fat; such contest to be conducted upon the following general plan:—

1. All tests and awards to be under the direction and control of a committee to consist of officers or representatives of Agricultural Colleges or Experiment Stations.
2. Each breed competing shall select one member of the committee.
3. All tests shall be conducted at the homes of the animals by a representative of an Agricultural College or Experiment Station, and shall be made by employing the Babcock test.
4. Awards shall be for the highest production of pure butter fat per cow, and for periods of not less than seven consecutive days.
5. Each association competing to contribute a like sum of money, not less than \$500.00 each, and from the aggregate sum so contributed the prizes are to be awarded.
6. Cows shall be divided into classes according to age.
7. It is recommended that four prizes be offered in each class, with not less than four cows in each class.
8. All tests to be made within a year from a date to be agreed upon; and all entries shall be made, and prizes awarded within three months after the expiration of the test year.
9. The entries made from each breed shall be subject to the approval of a representative selected by each association.
10. All further details as to the division of the prize money, and necessary to carry this plan into effect, to be agreed upon by a committee consisting of three representatives from each association competing.
11. This proposition to be accepted by each association intending to compete, on or before the 1st day of December, 1899.

In Germany a farmer was recently punished for selling butter which was proven to contain foreign fat to a considerable extent. A skilled chemist took up the case and showed that the alleged adulteration was due to peculiarities in the feeders consumed by the cows.

The Dominion Government are preparing to spend \$63,000 for cold storage on steamships, on railways, at warehouses and at creameries, and for expenses in connection with trial shipment of products, and for securing recognition of the quality of Canadian farm products.

In an analysis of butter bought on the English market and recently handled at Green Bay, Wisconsin, it was found that in all the Australian samples borax was present, in two cases out of three to a very large amount. Swedish had some borax, Danish none, Canadian and English none. One Irish sample showed borax to a considerable extent.

The Newdale Creamery Co. seems determined to keep the lead it has already secured, both in the extent of its operations and the prizes it has won for high quality of its products. A new building 30x70 ft. is now under construction. The stonework of the basement is completed and the framework of the superstructure under way. It ought, when finished, to be a model of suitability to the end desired.

Persiatric Plant Spray

The most effective and highly concentrated Spray in the market. Has successfully coped with the dreaded San Jose 'Scale,' and quickly destroys all orchard and garden pests, such as grubs, worms, brown rot, fungi, etc. Contains no mineral poisons such as arsenic or Paris green. Thoroughly reliable.

Persiatric Sheep Dip

The only remedy that will positively cure Scab in sheep. It is also invaluable for the cure of Skin Diseases in cattle, such as bruises, sores, ringworm, gangrene, shear cuts, and for ridding them of vermin. Widely endorsed by the leading stock-raisers of Canada as the best preparation of its kind in the market. Try it.

Persiatric Pig Wash

This preparation acts most satisfactorily on the stubborn Skin Diseases in swine. Has a soothing, healing influence, healing sores and eczematous diseases, and rids the animal of vermin. It acts as a tonic on sickly, depressed animals. Used a week or so before slaughtering, it makes a handsomely dressed animal for market.

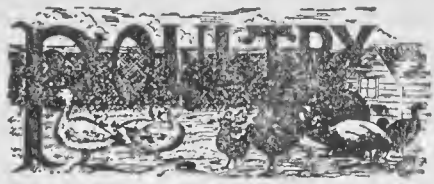
Persiatric Horse Wash

This is a preparation of highly-concentrated curative qualities for the curing of Skin Diseases, and for killing all vermin in horses and cattle. Cures Scratches, Mange, Ringworm, Grease, Eczema, Urticaria, etc. Heartily recommended by horse breeders and leading veterinary surgeons.

You cannot afford to experiment where the health of your live stock is concerned—get the best. The Persiatric goods are the standard for PURITY and STRENGTH. At your dealers, or direct from the manufacturers—

THE PICKHARDT RENFREW CO.,
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Fattening Chickens.

It is safe to say that not one chicken in a hundred in this country is fattened as it might and ought to be, with much more profit to the owner than is now the case. As Professor Robertson says in his evidence before the Committee of the House of Commons, from which we are about to quote, it would be as wise to kill a lean steer for beef as it is to kill our chickens in the condition in which they are usually killed here. In England it is not farmers too poor, ignorant and incapable to do anything else who do this work, but well-off men, who do it because there is money in it. The poor sort raise them and sell them to the fatteners, who will feed up to 5,000 at a time for three or four weeks, by means of a crammer. With one of these machines a man, by one stroke of his foot, can give the chicken a meal, and with a boy to hand them in and out of the coops, can feed from 300 to 350 in an hour. The feed used was oats ground so fine that even the hulls were ground into dust, mixed with skim milk, preferably soured. The mixture was about the thickness of thin porridge. It was fed raw. During the last ten days a little tallow was added to the mixture, about a pound to 60 chickens. To destroy vermin a pinch of sulphur was rubbed under the wings and tail.

At the beginning of the feeding process the feeding was done in a V shaped trough outside the coops, through the slats of which the birds could put their necks. The cramming process was used the last half of the time and the mess was a trifle thicker at the close than at the start. No water was needed for birds so fed, but in his Canadian experiments along the same line Professor Robertson gave water once a day. His last fall experiments are given with considerable detail in our issue for January 5th of this year, to which we beg to refer our readers.

The early pullets are the profitable winter egg producers.

If the premises are kept clean and a dust bath provided, the fowls will rid themselves of lice.

One advantage with the later hatched chickens is that in a majority of cases they are much less trouble to raise.

A breed of fowls kept for eggs alone, should be that one which can be kept with the least expense for food of support.

In selecting breeds, especially for layers, it should be remembered that every pound of flesh must be supported at the expense of the product.

Let the fowls have drinking troughs into which it will be impossible for them to get with their feet. Their water becomes foul, and to it we may attribute many diseases.

Millet is one of the best feeds for poultry, old and young, and is especially valuable for young chickens. It will pay a farmer to sow a small patch of millet especially so as to have the seed for his hens.

Breaking Up Sitting Hens.—The old hens may differ with you in regard to the advisability of hatching a few late broods. To change the current of their thoughts, confine them in a coop slatted on four sides and the bottom, but having

a rain-proof top. Set the coop and its prisoners in the poultry yard where they can see the rest of the flock, feed generously with cooling feed and move them to a new spot every day.

The other day we were at a poultry farm where the owner had purchased a lot of farmers' hens. The amount of vermin which accompanied the purchase, he found later, was so great as to make the deal an unprofitable one. They were covered with lice. As these birds were picked up indiscriminately amongst the farmers, it seems pretty safe to conclude that they give a pretty fair index to the average condition of the farmers' fowls.

One of our representatives had the pleasure lately of a look over the poultry farm of F. E. Wilkins, Red Deer, Alta. This is Mr. Wilkins' first season in the business, and as he is a pioneer in the line of extensive poultry raising in this part of the country, his success is worth watching. He has used the incubator and brooder, and has had splendid success with both machines. Phenomenal success, too, has attended the hatching by hens, 20 hens bringing out 270 chicks, or an average of 13½ each. These hens were set on from 15 to 17 eggs each. The largest loss occurred through wet weather when the chicks were about three or four weeks old. This year's hatching were mostly B. P. Rocks, White Leghorns and White Wyandottes, but it is intended to continue mostly in the white breeds.

A special prize at the Carberry exhibition, deserving of fuller mention, was one for the best judge of beef cattle, open to farmers' sons under 21 years of age, employed on the farm. This is a prize that might be introduced with advantage at many fairs. In this case only two young men came forward. They judged the rings along with the regular judges, but handed in their decisions before the regular judges made known the order in which the animals were to be placed. Geo. Barron, son of J. G. Barron, won first and Geo. Cathrea second prize.

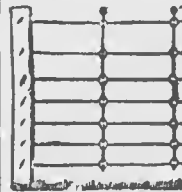
WHITE PLYMOUTH ROCKS.

Winning at last Exhibition of Manitoba Poultry Association four firsts and two second prizes. If you want good birds, write for prices.

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Secure another **SWEEPING VICTORY** at Winnipeg, July, '99. Winnings on Single Comb White Leghorns—1st, 2nd and 3rd Pairs, 1st and 2nd Breeding Pens; Rose Comb White Leghorns—1st, 2nd and 3rd Pairs, 1st and 2nd Breeding Pens, 1st and 2nd Chicks; also 1st on White Wyandottes, 1st on Black Wyandottes, two 1st and two 2nd on Black Spanish. A record like the above stands unequalled. A few choice birds for sale, including some of my prize-winners. Young stock for sale after Nov. 1st.

GEORGE WOOD,
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My Turkeys are all sold, except those required for breeding stock. Am breeding from two of as fine yards as there are in Manitoba.

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G. H. Grundy, Box 688, Virden, Man.,

Breeder of Exhibition **B.P. Rocks, S.L. Wyandottes and B.R. Game Bantams**. I have mated this season four pens of B.P. Rocks and two of Wyandottes. Pen A in B.P. Rocks mated for cockerels; pen headed by imported cock. Pen B mated for pullets, and headed by 1st prize cockerel at Man. Poultry Ass. Show at Brandon in Feb. Pen C mated for pullets, and headed by an imported cockerel from which I look for grand results. Pen D mated for cockerels, and headed by my ideal cockerel scoring 92½ by Judge Shellabarger at Brandon, the highest scoring B.P. Rock in the Show. Wyandottes mated for best results. Can furnish Eggs from the above pens at \$3 per 13, \$5 for 26. If you want the best at fair prices, here they are. Satisfaction guaranteed.

SINGLE COMB White Leghorns

A fine lot of young cockerels for sale, delivery on September 1st. \$1 each. Please order at once.

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Norwood Bridge Poultry Yards.

**B. MINORCAS, HOUDANS,
W. WYANDOTTES.**

A fine lot of fowl and chickens for sale, many of them 1st prize winners at Winnipeg and Brandon this year. All my chicks bred from 1st prize stock.

JOS. WILDING, Norwood Bridge, Winnipeg.

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While our columns are always open for the discussion of any relevant subject, we do not necessarily indorse the opinions of all contributors. Correspondents will kindly write on one side of the sheet only and in every case give the name—not necessarily for publication, but as a guarantee of good faith. All correspondence will be subject to revision.

Dairy Shorthorns Wanted.

E. Carswell, Penhold, Alta.: "I would like to correspond with some of your advertisers or other breeders who have Shorthorn bulls for sale of a really good milking strain."

Freight on Sheep or Swine.

Enquirer, Red Deer, Alta.: "Has any special arrangement ever been made for the cheap transit of pure bred sheep or swine (as on cattle) brought from Manitoba to the Territories?"

Answer.—There is no such arrangement for anything else but cattle. If you look around you could surely find something to suit you within reasonable distance.

Wants Dakota Cottonwood.

P. D. C., Calgary: "Could you kindly give me the address through your paper of any parties where I can buy seed of the Dakota Cottonwood?"

Answer.—We have not heard of any one that has such seed for sale. This country has had most of its supply from seedlings collected along the flats of the Missouri River in the fall, tied up in small bundles and laid down, then taken up in spring and sold to the dealers. There is another way to produce them. Cuttings can be taken from the trees and put down, say six or eight inches below ground and one or two above. These cuttings sometimes fail to strike and where they can be got conveniently the small plants from the Missouri are more convenient every way.

Half Insurance.

A Subscriber sends us his policy of insurance with a "Mutual Hail Insurance Co.," and asks if we can assure him that it is a reliable concern. It would, we venture to suggest, have been a little more business like if he and thousands of other farmers of this province had taken time to ask the same question before signing their applications. A pleasant spoken and fluent stranger may be as great a benefactor as he represents himself to be—and he may not, the exact truth comes out later on. One point we note in the contract which now lies before us, the company insures and charges on every acre of the half section. No farmer in this or perhaps any other country has all his farm under grain. He may have 200 at most, perhaps only 100. In either case he is charged for the whole 320 acres, or as we understand it, gives his note for \$40, each quarter section. But if he happens to have only 60 acres of that under crop, and has the whole of it destroyed, he can only collect from the company \$300, while paying for insurance on \$800. How is this for a business arrangement? As to the company's reliability, we presume that the government, having issued them a license, are satisfied that the people's interests are sufficiently protected and the company, therefore, are entitled to transact business in the province.

Cleaning Flax Seed.

Farmer, Olds., Alta.: "Could you or any of your readers kindly give through the columns of The Farmer one or more of the best methods of cleaning flax seed? This district seems to be very well suited to flax culture, large crops of it having been raised, but we have always found it difficult to grow it entirely free of other seeds, and equally as difficult to separate after threshing. Anything on this point will be a help to the farmers here."

Answer.—The only way to get flax seed free from foul seeds is to sow on clean land and hand weed. No machine ever yet invented will take out such seeds. For commercial purposes the threshing machine will clean it all you want. It is cleaned at the mill by the manufacturers. Seed well enough cleaned at the mill for crushing purposes has still so many foul seeds left in it as to be utterly unfit for use on clean land.

Scrub Immigrants and Their Cattle.

The Hon. G. H. V. Bulyea, Commissioner of Agriculture, Regina, sends The Farmer the following communication on the above subject:—

"In reference to 'Scrub Immigrants and their Cattle,' in July 5th issue of The Farmer, I would say that your correspondent has the matter in his own hands, as you will see by Section 4 of the Ordinance respecting Stallions and Bulls. Lamerton is not in a district set aside as a 'bull district,' and therefore any bull, scrub or otherwise, is a trespasser and can be dealt with as such under the proper ordinance."

Section 4 reads: "Except as hereinafter provided no bull nine months old or upwards shall be permitted to run at large in any part of the Territories at any time."

The expression "run at large" or "running at large" means without being under control of the owner, either by being in direct and continuous charge of a herder or by confinement within any building or other enclosure or fence, whether the same be lawful or not.

Section 5 provides that such animals may be captured; it is as follows:—

"Except within the limits of any pound

district or herd district constituted under the provisions of any Ordinance of the Territories, any person who finds a stallion or bull running at large contrary to the provisions of this Ordinance, may capture and confine such bull or stallion and promptly thereafter shall notify the owner thereof, if known to the captor; and if such owner do not within three days after receiving such notice take away such stallion or bull and pay the captor thereof \$5 for his trouble and 25 cents per diem for the keep of the said stallion or bull for every day it has been in his custody, such owner shall be guilty of an offence and liable on summary conviction thereof to a penalty not exceeding \$20, together with the costs of prosecution and the fees for capturing and the keep of such stallion or bull as aforesaid, which said fees shall be paid over on collection to the captor."

We would advise all farmers in the Territories that are troubled with scrub bulls running at large to write to the Commissioner of Agriculture at Regina for a copy of "The Entire Animal Ordinance." It rests with each settler whether he will be troubled with scrub bulls or not. Further provisions of the ordinance added to those given make it so stringent that no man can afford to allow bulls to run at large.

Government Appointed Judges.

Jas. Nixon, Kinbrae, Assa., sends the following contribution:—

"After fifteen years' experience I am forced to the conclusion that the small shows held by our agricultural societies are, to a large extent, a failure, and that they do not, as at present managed, repay the time and money spent upon them. 'Why so?' I am asked, and I reply that, if an agricultural society is not educative to the public, it has no proper function, and cannot justify its existence. Let it be borne in mind, that it is a well acknowledged principle, that an institution or an individual is entitled to just that degree of countenance and support from the public which its or his utility merits, and no more. The present system of judging exhibits has ceased to command either the confidence or respect of the public, much less of the exhibitors. I speak ad-

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visedly—even of the successful exhibitor, I have yet to meet the man who ever changed his opinion in regard to his exhibit because the 'judge' had awarded or refused him a prize.

"The judge is generally his neighbor, and frequently even neighborly rivalry is colored with envy, or at least that degree of bias which renders an impartial judgment—to say the least—difficult; and why should he change his opinion? We all know that under the present system it is too often more a question of who owns the exhibit than it is of merit. Of course there are exceptions; but the fact that these are only exceptions proves the general rule.

"For years I have agitated to have the government control the judging of stock exhibits. Let the Department of Agriculture allot the day of show for each society in the Territories and appoint a board of examiners who will grant certificates of qualification to applicants if found worthy. Then let there be appointments made from those qualified men. Their duty would be to attend the shows to judge the stock. Two such appointments would be ample for the Northwest Territories, the department having arranged the dates to suit the exigencies of the case, having in view, so far as possible, the convenience of the exhibitors, and, of course, the ability of the judges to be in each place in due order.

"The judge would know no exhibitor, and stock would be judged on its merits. The fact of his being qualified by certificate would give the public confidence in his judgment and he would be able to point out the merits or defects in the animals brought before him, calling attention to those technical points of which the amateur has no knowledge; but on which an opinion, to be entitled to respect, must be based. In every department of knowledge there are certain basic principles of classification, and it is time they were applied in the judging of stock at our shows. Stock breeders would thus have a valuable object lesson on show day instead of the feeling of dissatisfaction engendered by the incompetence or favoritism inseparable from the present system of judging."

Pressing Flowers.

A reader at Meadow Creek, Alta., wants information about the pressing and mounting of flowers. The usual way is to take plasterers' laths and make two frames of lattice work, about 12x16 inches. On this lay a thickness of the paper used under carpets or two or three thicknesses of blotting paper. Then take a folded newspaper, same size, lay back the upper fold and spread your newly gathered flowers on it. Be sure the flower is dry to start with. Lay back the top fold of the paper over the flower or flowers. On that lay more of the porous paper, and above that another layer of flowers, inside newspaper folds. Any number of flowers can in this way be piled up for pressing. Over the last layer put on one or two more sheets of porous paper and the latticed frame, to be loaded down with a flat stone of good weight. In a few hours begin to reverse the process. Open your first newspaper and see that each flower is correctly laid out. Insert dry porous paper between each layer of newspaper and again load down the whole. The next turn over may be within 24 hours. Having dried the pressing paper last used, you can use it over again, and at longer intervals repeat the process, never removing the flowers out of the newspaper folds. In from five to ten days, according to the original sappiness of the plant, it will be fit for mounting.

What is called Bristol board or fine cardboard is used to mount the flowers

on. We once saw a nice lot of flowers mounted on common building paper. Use small strips of tough paper here and there to glue the stems to the cardboard. According to the skill and care of the operator will be the quality of the finish. Some flowers change color considerably in drying, others change very little. The method of pressing between two folds of thin newspaper, alternating with porous paper, is the easiest and most convenient process and followed now by our best botanists.

Feeding Tough Wheat to Young Pigs.

Hayseed: "I want a little information on the above subject, and as there are a great many with this sort of wheat on their hands just now, I think you will be doing good work to take the subject up. I have purchased 20 young pigs, eight to ten weeks old, and I have a number more of my own, but they are last fall's pigs, so what applies in the case of the young ones may not suit the older ones. I have also a lot of wheat which started to heat, but was cleaned, moved and is now dry and cool. We cannot get this grain ground without too much outlay and expense, as there is no chopper near and they are not running at this season. I can boil it soft and feed it that way with buttermilk. My experience with whole wheat, soaked for 48 hours, has not been good, as pigs are very liable to get indigestion, etc., and 'go off their legs.' Boiled soft it was better, but there is a lot of labor in cooking it in the busy season, where there is no female help.

"I have hurdles similar to those which appeared on page 434, July 5th issue, 14 feet long, made like gates with corner posts ten inches longer to drive into the ground, which put together make a moveable pasture fence. In one corner there is a shelter made by making the two corner hurdles tight (no space between boards) and by placing two more sides around it, with a roof built in sections. The whole arrangement can be moved in an hour, giving pigs new pasture. The lumber and nails cost about \$6.00, but it will be good for years.

What I want to get at is this. I have pasture. I can get buttermilk. I have wheat and a little barley. I want to raise those pigs on that to best advantage.

1. What price can I afford to give for buttermilk per gallon?

2. Can I make boiled wheat do instead of ground wheat?

3. How much buttermilk will I require per day for the 20 young pigs, and what increase as they get older?

4. How much of the combined food buttermilk and grain should the pigs be fed at their present age, say ten weeks old, per day?

Answer.—1. Butter milk is worth for such purposes about the same as skim milk, which is usually figured at 1½ cents per gallon. It is a capital thing to give along with grain feed, either chopped or soaked.

2. Boiled wheat is not worth more as feed than when given dry, especially if the extra work is allowed for. But for a change it might be worth trying.

3. You can hardly give too much buttermilk, if it is used up clean.

4. The best guide is the appetite of the pigs themselves. If they eat it heartily it is best to give all they will eat clean up. It would be an improvement to give an armful or two of green cut oats daily to pigs at that age. It would do much to promote hearty growth, the main thing to be kept in mind at present. It is not only the feed but the way it is done that counts. Well-grown pigs that have reached the fattening stage can do with less variety, but prairie grass is worth much less than green grain. At Newdale last year acres of wheat were used as pig pasture on which they grew with little or no other feed. See also in another part of this issue how pigs are fed wholesale with next to no labor, through a self-feeding box. If they are kept fasting too long and then fed from a trough they will gobble up more than they can get any good of, and injure their digestion. Throw a little wheat on a clean board with an edging round it and they can only pick it up slowly. You do not give us all the details of your management. Are they fed regularly twice a day? Can they get all the clean water they want? Do you occasionally go ten or twenty miles to a cricket match or gymkana, and who looks after the pigs then? These are some of the little secrets on which depends the success of any kind of stock feeding. It would, we think, be cheaper to travel 20 miles with a grist than to be pottering with hoiled feed.

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Choice strain of milking SHORTHORNS. Highest type of SHROPSHIRE SHEEP—10 choice young registered Rams for sale.

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Calgary.

A month ago we promised a few more notes from this district. And, indeed, a trip amongst the farms and ranches about Calgary is full of interest to any one.

About half a dozen miles south of the city on the banks of the Bow river is Craighurst farm, owned by C. W. Peterson, Deputy Commissioner of Agriculture for the Territories. Mr. Peterson has a good-sized farm, well-kept, and through the courtesy of his father-in-law, Mr. Edge, we were shown around. In this district an irrigation ditch is in operation, but it has not been much needed this season. One or two crops which are being grown on Mr. Peterson's farm and in his garden are worthy of notice. A nice plot of sugar beets was doing very well, and with cultivation and a little irrigation this crop has given splendid results, both as a field crop and also for table use. A small patch of Lucerne, which had been sown on an exposed place in July of last year, had cut a good crop of hay about two months later, had wintered without loss and would likely give two heavy crops of hay this year. This plot was sown as a test, but a much larger patch was put in this year, which is looking well. If it can be found possible to winter this crop continuously without disaster, it certainly should be quite an acquisition to Southern Alberta, as its powers of withstanding droughts should make it especially reliable as a hay-producer. Mr. Peterson is also keeping a number of pure-bred and good grade stock of various kinds which are well worth a look at. His Clyde stallion, Herd Laddie, a well-built, good-blooded horse, together with five or six Clyde mares, make up a nice breeding stock of horses. A number of Ayrshires are also kept on the farm. The bull is a good-sized and typical Ayrshire. One cow recently imported from Scotland is a beautiful animal, combining a fine, clean-cut head and neck, good feeding and lung capacity and strong milking points. Besides a number of pure-bred Ayrshire cows and heifers our eye was taken by a Shorthorn-Ayrshire grade cow, which seemed to be about as near an approach to the much discussed general purpose cow as we have ever seen. In poultry Mr. Peterson has B. P. Rocks and Toulouse geese.

Near at hand James Turner, of the Meadowfield stock farm, is the owner of quite a nice herd of Shorthorns which he purchased in 1898 from Purves Thomson, of Pilot Mound. His four-year-old stock hull, Emperor Earl, is a very large, square, dark red, low set beast, with extra wide, well-fleshed back and well-covered shoulder blades. A nice seven or eight months' old hull is a good deal like his sire. There are about a dozen females in the herd, which includes some square, roomy cows and neat heifers. A number of the young things were sired by Greenway's Hillary.

On the farm of P. D. Cleland we saw a very large plot which is being set out to trees and shrubs. Many thousands of seedlings of various kinds have been started this spring, besides young trees of different kinds, including maples, ash, elm, birch and several varieties of willow. About 600 spruce trees were set out this spring, which, together with the number already growing, will make a grove of evergreens of 1000 trees or more. Of course, some of these may be winter-killed, but Cleland's experiment is an extensive one and well worth watching. We found such hardy shrubs as

caragana, lilacs and southern-wood growing in profusion. Maples seem to do rather better around here if sown where needed, as transplanting in dry weather and into dry soil is generally very trying on them. Fruits generally are rather less successful in Southern Alberta, as the chinooks make the winters very trying. Tame raspberries seem to be little use, unless laid down or sheltered by a friendly snowbank in winter and early spring.

Mrs. Reinhardt showed us what could be done in the way of wintering flowers in the open and a list of a few of the sorts which are hardy enough includes such perennials as peony roses, columbine, pinks, sweet williams and scarlet lychnis, and such annuals as chrysanthemums, petunias, sweet peas, pansies and nasturtiums. Black, red and white currants have done well, and last year six bushels of tomatoes were gathered from a small patch. Squaw corn has also been ripened.

George Landymore uses rather a novel method of vegetable growing. He has a large closely-boarded yard where he feeds cattle in the winter. In the spring he hauls out the surplus manure and plows the yard for a vegetable garden. His garden needs no extra fencing nor manuring, and he grows prize-taking vegetables.



S. A. Bedford.

Norval B. Hagar.

A Catch of Pike

Taken from Shoal Lake, Man.

John A. Turner, of the Balgreggan ranch, Millarville, is a pretty widely known breeder of Clydes, so we took a trip out over his stock and found the ranch well worth a visit. Mr. Turner keeps quite a band of well-graded Clydesdales, sprinkled with about 15 registered mares and a number of registered young stock, mostly sired by Balgreggan Hero. A number of his breeding stock of mares are out of imported dams and have been bred by good eastern breeders. The bunch includes some extra good large mares, of which anyone might be proud. A number of young Clyde stallions which had recently been imported from Ontario promise to develop into good useful horses. There were six in the lot shown us, although one of these had been sold to go to the Elbow ranch, owned by R. G. Robinson. Lofty 2nd is a dark chestnut, three years old, with silver mane and tail. He was bred by John Davidson, of Ashburn, and is a very handsome animal of unusually good type, though if anything a trifle under size. In quality he is a good one throughout, with clean flat bone, well-rounded, closely-coupled barrel and broad, deep quarters, and carries a head showing a good degree of intelligence. He has also a nice springy, easy action. Last year he was shown at a number of the Ontario fairs and was never beaten. The other five were

yearlings, Prince Stanley and Sonsie Lad, bred by D. & O. Sorby, Guelph, Ont., carry some proud blood in their veins. The dam of Prince Stanley won first place and sweepstakes for mare under three years old at the World's Fair, and second for mare any age, being beaten by her own dam, Lady McGregor. The colt himself was placed first at the London (Ont.) show last year as a sucker. Sonsie Lad was also a prize-winner at the same show, his dam carrying off first and sweepstakes at the same time and place. His grand-dam was also first and sweepstakes at the Royal show. The other colts, Grand Prize, Activity and Enterprize, are all well-muscled, strong fellows of splendid breeding and of very much the same stamp as those mentioned, and are all likely to develop into large useful horses. Besides Clydes, Mr. Turner has a few Shorthorns and Shrops.

Robert Turner, with some good pure-blooded horses and Shorthorns; Jas. Fisher, with a bunch of about 500 or 600 horses, and Adams & King, with nice Galloways, are all on the same creek, and close together.

John Ramsay, of Priddis, is a young breeder of Shorthorns, who commenced last year by a purchase from W. D. Flatt, of Hamilton, Ont., and has over a dozen head of pure-bred animals. His 18 months' old bull, Trout Creek Hero, is a dark roan, closely knit and low set, and a beauty. He has a shapely but strong masculine head, a splendid girth, extra well developed thighs and a mossy hide. Last year he took first place at a number of the Ontario fairs, and he is a bull fit to head even a much larger herd than Mr. Ramsay's. Woodlawn Boy is a dark red, 16 or 17 months old, and an active, well-built beast. The cows throughout are a fine lot with pedigrees which show some rich breeding. Roan Duchess 62nd, a 6-year-old cow, is a large, roomy animal, with well-sprung ribs, and probably one of the most useful in the herd, although Red Empress 3d, is a very thickly set, broad cow carrying a wealth of flesh. Miss Clara, a beautiful 2-year-old, with a hack as straight as a line, Milton Rose 2nd, another 2-year-old with splendid width, and a number of others are all worth mention. In fact, Mr. Ramsay has selected an unusually good lot of stuff without a single poor beast, and the district may well be proud to possess a herd of such quality.

Fattening Hogs at Neepawa.

Our readers will remember that some time ago The Farmer reported that a large number of Ontario hogs had been brought up to Neepawa and were being fattened for market. A representative of The Farmer had the pleasure of seeing several bunches of these hogs in their pens on the borders of the stream that flows through Neepawa. Hamilton Bros. had some 500 hogs in these pens that were being fed on ground damaged wheat, costing \$6 and \$8 a ton. In one pen the pigs took their meal from two self-feeders and drank from a portion of the stream fenced in. The meal was fed dry and the pigs had access to it at all times, so that they could eat as much as they liked. The self-feeders hold feed enough for four or five days, so that very little attention is needed in feeding this lot. The pigs are provided with shelter from the sun and having access to water they take a bath whenever they feel like it and it is astonishing how often they feel that way. It was an ideal place for fattening pigs, as they had nothing to do but "laugh and grow fat."

Close by were other pens well shaded by scrub. The pigs in these pens were fed the same kind of grain but it was fed wet—soaked and soured. They had made perhaps greater gains, but not enough to

pay for the extra cost for labor in feeding occasioned by soaking the food. These pigs did not have access to water for bathing, and perhaps if they had would have made even greater gains than they did. A draft of the more advanced pigs taken some time ago showed an average gain of 120 lbs. for 60 days' feeding.

The only fault that could be found with the arrangements was that the pigs were a little crowded. Had they had a few acres larger run so that they could have had more exercise and possibly, too, more green food, they would have grown a little more bone, set out a little more and made larger returns for the food fed.

Harry Irwin, near by, has a large bunch of the same kind of hogs. We did not see them, but understand that they had a much larger run than those of Hamilton Bros. They were fed the same kind of feed and at first did not seem to gain so rapidly as the Hamilton lots, but they were growing bone and are now leaving the others behind in the race for market condition and will leave a larger profit.

Indian Head Experimental Farm.

The first week in August is a good time to see the Indian Head Experimental Farm, and The Farmer only echoes the feeling of the many farmers who visited the farmers during that week when it says that it is like an oasis in a desert. The teachings of Mr. Mackay and the example he sets at the farm are doing a great work throughout the west. One of the first things that strikes a visitor is the number of splendid shelter belts, not only around the whole farm, but also around the trial plots for fruit trees, etc. One cannot but wonder why it is that farmers have not planted more trees around their homes than has been done. When spoken to about it, they, of course, say they haven't the government at their back. It is not a matter of expense so much as it is of will. With a small outlay for trees and shrubs combined with labor, the surroundings of the farm home can be made most beautiful and comfortable.

The farm throughout was beautifully clean and the walks and drives in excellent condition. The whole farm reflects great credit on the able management of the superintendent, Angus Mackay. The flower beds and plots in front of the house were looking their best, but it was the plots surrounded by hedges and windbreaks that had more attraction for us. In one of these shelters a number of Manitoba larch were doing nicely. They came from Rat Portage and have been in the grounds for three years. Blue Spruce seem to grow all right in shelter, but the wind destroys them in the open.

So necessary is shelter that one naturally turns to see what is doing the best. Of the larger hedges or windbreaks the Manitoba maple, poplars and willows are all doing well and will stand considerable pruning. One fine row of American cottonwoods had a hard struggle last winter and show the effects of it. Russian poplars planted in avenues over the farm were killed in many places and vacancies are being replanted with elms. Of the smaller hedges the *Artemisia* may be looked upon as the mother of them all as without its friendly shelter many of them would never grow up. The native snowberry does well, also the Caraganas. A Russian olive promises well as a hedge, being prickly and with a wire run through it may make a good stock fence. The silver berry grows too straggly for a hedge and the native cherry and ash will not thicken up. The Ginnalian maple promises well, being a good color and apparently stands pruning.

The fruit tree plots are interesting studies, but disappointing in fruit. A number of Weaver seedling plum trees promise well and are loaded with fruit, but we can't say that they looked as healthy as they should, and may drop their fruit. One specimen of the Aiken plum is growing nicely and has never been killed back. The plum trees from Charles Luedloff, Minn., although planted four years ago, are not doing much, neither are those obtained from Stonewall. Only one pear tree is living and that freezes back every year. Siberian crab trees are growing nicely, and a number of them have fruit on, but it is not promising. Last winter some of the trees killed back 10 to 15 inches, while the winter before there was none of it frozen. Specimens of the Rocky Mountain and Dakota sand cherry are fruiting heavily, but there is a great variety in the fruit of the sand cherry.

Raspberries are heavily loaded, so are the currants of all kinds. (Gooseberries) are doing nicely and there is a heavy crop of strawberries. Garden stuff of all kinds was growing luxuriantly.

The experimental plots of wheat looked well and while interesting to study when on the ground, not much of interest can be written about them. The testing point is the yield. In all some 55 varieties are being tested this year, and of these nine are hybrids. Besides the regular test plots there are larger plots, two to five acres in extent, which looked as though there was hardly room for another stalk to crowd in. Most of this is Red Fyfe, standing nearly four feet high, with long heads and filling well. The Fyfes will likely hold the lead in yield again this year, as the stand is very heavy, and the yield, if anything, will be heavier than last year.

In all 72 varieties of oats, two of them hybrids, are under test. The oats as a whole are perhaps not quite as good as usual, being shorter in the straw and not quite so thick a stand. The test plots looked fine and from present appearances the Banner will again be to the front.

The barley plots have a good stand and will give good returns. Twenty-two varieties of 2-rowed and twenty-eight of 6-rowed, and two of hullless barley are being tested. The hullless varieties are very soft in the straw. Fifty-nine varieties of pease have been sown and are doing well. Flax plots sown a week apart and with 40 and 80 lbs. to the acre show interesting results. Hungarian and millet are more or less uncertain crops, depending so much on moisture conditions.

Root crops are looking well. Twenty-six varieties of turnips, 20 of mangolds, 20 of carrots, and six of sugar-beets, are being tried. There are two rows of each and two seedings of each, about two weeks apart. Thirty-six varieties of corn, two rows, each 66 ft. long, are being tested side by side. Plots in other places for fodder purposes are doing well and some stalks had attained a height of 5 ft., while one plot would average over 4 ft. in height.

Potatoes looked well; 123 varieties were being tested. Field beans were being tested for the first time this year, with good results so far.

The tests with different seedings, a week apart, with wheat, oats and barley, are again continued, also seeding at different depths and with different quantities per acre.

Smut tests with formalin in different ways were tried and a new French preparation used, called massel powder, for oats. This is the first year it has been tried here.

Another new line of work is the rotation crop tests. Twenty half-acre plots of ground, summerfallowed in 1898, have been sown with many different kinds of crops, to be followed with a different crop

next year. A separate and different rotation is laid out for each plot and check plots are left as tests of the efficacy of the plan.

Mr. Mackay is conducting an interesting experiment in trying to seed down prairie land with Brome grass for pasture. Last year ten acres was thoroughly cut up and seeded with Brome, but the catch was not a good one. We understand that for two previous years this plan was fairly successful. This year he is breaking in and backsetting and will seed next year.

Brome hay was a heavy crop on the farm this year, some of it going 5½ tons to the acre, with an average crop of about 2½ tons. An interesting fact came to light in connection with the feeding of Brome grass and hay to the 13 work horses. The horses are weighed every month and when they had been feeding two weeks on Brome grass and hay it was found that an average gain of 40 lbs. a head had been made over the previous weighing. There was no change in the grain ration and no difference in the amount of work performed. Only enough Brome grass seed will be saved to supply the demand for 2 lb. lots.

The large plots, two to five acres, of the leading grains are for distribution. A large lot of different varieties of grain are being grown for samples in the sheaf for the Paris Exposition.

Fancy Prices for Shorthorns.

There have been good prices made in Manitoba lately for Shorthorns of good pedigree and well brought out for show purposes. In some people's eyes these figures—say the \$500 level—are extravagant and absurd. Fancy articles generally bring more than mere business values for this simple reason, among others, that you can't make more of the same sort to order as fast as they are wanted. There are plain-minded people who still think that a bull that has been "nosed" to take a high place at the show is nothing bettered by the process, and loses in lasting power what he gains in good looks. Whether such is the case always we do not stay here to inquire. We want to contrast the fancy prices paid here with some that are being paid elsewhere. The Royal show of England is the most recent example. The Argentine Republic has been for years the most zealous buyer of Shorthorns with show-yard honors, and this year it wanted more. Our people sometimes complain of judges and exhibitors being too "clannish," with consequences not always favorable to real merit, but at the Royal one brother judged the other's stock with decided advantage to the family finances. But the buyers placed him otherwise, and the great demand has been, now as always, for Aberdeenshire blood, of which happily we have here in Manitoba one or two nice specimens. Sittyton, Collynie and Uppermill are names to conjure with, and Deane Willis with Bapton Emperor won another Royal championship for the same stock. This bull goes back to Aberdeenshire. Mr. Marr, his owner, refused \$2,250 for him. Four other young bulls were sold at \$1,000 to \$1,250. At the same show \$2,500 was offered for a splendid Devon bull, champion in his class. The Queen got \$3,000 for her 2-year-old Hereford bull. For a 2-year-old Shorthorn, fourth in his class, \$2,500 was refused by his owner. The first in this class, Count Beauty, has since been sold to an Argentine buyer at a still longer figure. Our time is coming. We have sold a few back to Ontario this year. We may perhaps be selling to Argentina, too, before many years.

Neepawa Fair.

The first summer fair of the Beautiful Plains Agricultural Society, held August 8, 9 and 10, was a decided success. The number of entries was larger than at any previous fall show and the gate receipts about \$100 ahead of any former takings. So successful was the show that it is not likely the society will go back to a fall one again.

The horse exhibit was a good one, and worthy the Beautiful Plains. In heavy draft stallions, S. McLean, Franklin, was first with Pride of the West, a useful son of Charming Charlie. We cannot have too many horses such as he. Though Munroe's Shire stallion, Grove Ringmaster, was only second, yet his colts were first prize winners. Munroe was also first for heavy draft team in a competition of three. Foals of 1899 were a strong class of five, J. Curtiss got first for a well set-up colt, S. McLean second. Harmon Lyons, Carberry, was first for his excellent team in the agricultural class, out of an entry of five good teams, Willoughby second. This class was much better than it was last year, as last year's winners were turned down. Agricultural brood mares made a strong ring with S. McLean and J. H. Irwin in the lead. 1899 foals were an especially large ring. D. McGregor, Winnipeg, judged the above classes and Dr. Hinman the light horses.

Carriage horses made a good showing. Four stallions competed for the special by W. F. Sirett, M.P.P., and Hugh Stewart won. Four teams were shown, but the quality was not as high as we would like to see it. Roadster classes were better filled. In Thoroughbred stallions, Fulton's Rumpus was first and in Standard breds, the Beautiful Plains Horse Breeders' Association was first for their horse, Pliny. R. Halpenny showed an extra good brood mare and foal. Single drivers, saddle and pony classes were well filled.

A very creditable exhibit of cattle was made, showing that though wheat growing may suit some men, there are still others on the plains that believe in stock. Shorthorns made a good showing. Watt Card had out a nice string, securing the herd prize, first for bull calf, yearling heifer, which, by the way, was an extra good one, and aged bull, also diploma given by the Pure Bred Cattle Breeders' Association for best bull any age. R. Scott also had out a nice lot of well fitted animals. The only male he had forward was a well turned calf on which he got second. He was to the top with his aged cows, his white cow being out in fine condition; contest for second place was between one of Card's cows, which defeated Scott's, white one last year and a heavy fleshed cow owned by Peter B. Robb. The latter finally got the prize; this ring was a good one. Scott had out a fine yearling heifer on which he got second. He also got second place for herd, his females were extra good, but having only a calf to head his herd, put him down. Peter B. Robb had forward a large string of cattle off the grass, but they were rather hard to manage, the judges therefore could not handle them, and he may have lost prizes that otherwise should have gone to him. W. G. Pollock showed a well-grown smoothly turned red two-year-old, grandson of Topsman, that we liked very much.

H. R. Keyes, Midway, Man., showed his Jersey bull in fine condition, and was awarded first and the Breeders' Association diploma. He also showed a beautiful young bull calf and an aged cow, getting first for both. B. R. Hamilton showed a nice cow and heifer calf.

Jas. Robertson, Glendale, showed a bunch of Herefords, headed by Lord Glen-

coe. his stock bull, a smooth well-turned fellow of Sharman's breeding, and shown in good flesh. Damson of Ridgewood, Cherry Blossom, a yearling heifer, and a bull calf, Sir John, made up his excellent exhibit. He had prizes for Hereford grades of high quality.

Grade cattle were a large and useful exhibit. Seven aged cows entered the ring. J. H. Irwin showing two deep business looking Holstein grades and two almost as good Shorthorn grades. He got second for one of the Holstein grades and Scott got first for a Shorthorn grade of good form and deep milking qualities. Irwin was a leading winner for his well fitted grades in the younger classes. Jas. Robertson got first for heifer calf. Geo. Hope, Carberry, and Dr. Hopkins, V.S., placed the awards, assisted by Jas. Bray, Longburn.

Sheep made a rather poor exhibit, J. A. McGill and D. Coulter showing a few each.

The exhibit of swine was the largest ever seen at the Neepawa show. Jas. Robertson, Glendale, made the only exhibit of Poland Chinas, but they were good ones. The competition was in Berkshires. J. A. McGill had out a good exhibit of his favorites, in excellent breeding condition and though he had sharp competition in some classes, captured most of the first prizes. His aged boar, General Booth, was in fine shape and won the diploma offered by the Sheep and Swine Breeders' Association for best boar any age. Jas. Laidler showed a good boar of Snell's breeding. Aged sows were a strong class, McGill's Charmer 2nd, a sow of Snell's breeding, was first and diploma. She is a sow of great length and thickness and weighed close to 750 lbs. when landed at Neepawa. McGill also showed another sow, Nora, but as a fine litter of nine had just been taken off her she was a little low in flesh. Jas. Laidler was second for a good Snell bred sow. McGill was first and second for sows under a year with two smooth straight ones. H. R. Keyes, Midway, was first, with a sow of Coxworth's breeding, for sow and a litter of well grown young pigs. McGill showed Rosamond, with a litter of 9 or 10, by FitzLee, but the pigs were very young and so she was placed second. For boar under one year McGill was first with a beautifully straight young pig of his own breeding, Laidler second. Keyes showed a straight, good young pig, a winner at Winnipeg, but the judge preferred the others. A few grades were shown. Jas. Bray, Longburn, placed the awards.

The poultry exhibit was a marked improvement on last year. Geese and ducks made very large classes and some nice pairs were shown. White Plymouth Rock chicks were extra good, so were some of the Brown Leghorns, Barred Rocks, Indian Games, Pigeons and several other classes. John Kitson, Macdonald, placed the awards.

The show of grain was large and the special for 10 bushels by the Union Bank brought out more than a dozen entries. It was won by P. M. Stewart, who also won the first for four bushels Red Fyfe. His wheat weighed 64 lbs. to the bushel; second prize lot weighed 63½ lbs. and was shown by A. Willerton. G. S. McGregor showed a fine sheaf of Brome grass, Jas. Robertson showed a sheaf of Native Rye grass and also Rye Grass seed. J. Drysdale got first prize for a nice collection of grain in the straw, J. B. Govenlock having a close second.

Vegetables were the best we have seen at any show this season, well grown specimens being shown in nearly every kind. J. B. Govenlock had forward some heads of cauliflower that were admired by all, and had numerous other prizes.

There was a nice exhibit of butter, prizes being well distributed. Only one entry of cheese was made.

The exhibit of fruit was large and most interesting, as showing what can be done in growing fruit. Messrs. Smale, Halpenny, W. Brydon, Drysdale, B. R. Hamilton and J. B. Govenlock were prize winners. R. Elliott showed some well-grown crab apples.

Ladies' work, bread, preserves, etc., made, as usual, large exhibits.

The display of farm implements was large, and perhaps among these exhibits nothing attracted as much attention as a root puller, stone lifter and ditcher shown by W. T. Jackson. A trial of it was made at the fair, and every one seemed well satisfied that it was just the thing for pulling out scrub and small stumps.

The stock parade was a good one, and altogether the members of the society are well pleased with their first summer fair.

Manitou Fair.

This society had its twelfth annual show on August 9 and 10. There were 822 entries against 530 for last year, and the attendance was good. The stock made an excellent exhibit, poultry limited, but of good quality. Dairy produce, vegetables and household exhibits were very good. The ladies' work was abundant and good. In heavy draft teams, J. S. Robson and P. Lee had 1st and 2nd; general purpose, G. Nairn and F. McAuley, 1st and 2nd. In Shorthorn cattle the honors were well divided, J. S. Robson leading, W. E. Baldwin, Jas. Fargey, Motheral and Shewfelt following. Many good things in this class. In pedigreed dairy stock W. Baldwin, Sr., had all prizes. Grade stock were choice, W. E. Baldwin, Fargey, Crosby and W. Riggs taking good places. In sheep, Lytle, R. Waldie, Davidson and McIntosh led. In swine, Fargey, Robson, McIntosh, McGregor, Baldwins, Sr and Jr., and Jas. Rice got leading places. In grain, T. D. Clements, J. Crosby, J. Davidson and Fargey got prizes.

The Late James Elder.

The Farmer is sorry to chronicle the death of James Elder, so long and widely known among Manitoba farmers, who died at his home, northwest of Virden, on August 9th last. Mr. Elder has for years been suffering from an injury to the heart caused some time ago by accident, but it was only within the last six weeks that he was confined to his bed. Mr. Elder came west in 1884, and soon became known as a progressive and capable all-round man. For many years he was the president of the Central Farmers' Institute, and in that capacity became widely known as a well-informed and effective speaker. As a judge of live stock he was always reliable and impartial. He was an attached member of the Presbyterian church and one of the most capable Bible class teachers of that church to be found in Manitoba. He was a good farmer and a good man, one of the sort this country can ill spare.

A very clever woman has been fined at Bristol, Eng., for selling margarine as butter. She went on the market and bought margarine, took it home and there worked it over so as to sell as country butter. At this stage of the business she dressed as a neat country woman. The market inspector took suspicion, tracked her to her factory and had her fined \$100.

First Territorial Report on Agriculture.

The first report of the Department of Agriculture for the Northwest Territories has recently been issued. It is a valuable report of 100 pages, and gives information of a nature that has never hitherto been published. The work of the department was carried on for a number of years in connection with the public works department and other branches of the executive committee. In December, 1897, the clerk of the executive committee was appointed deputy commissioner of agriculture, with the idea that he could look after the work until it was put on its own footing. This was done in June, 1898, and later the Hon. G. H. V. Bulyea was chosen Commissioner of Agriculture, and C. W. Peterson was appointed deputy.

The department, believing in the value of agricultural statistics, has divided the Territories into 16 districts for the compilation of crop statistics, which at present are gathered largely from threshers. These returns show that about 307,580 acres of wheat were grown in 1898, yielding 5,542,478 bushels; 105,077 acres of oats, yielding 3,040,307 bushels, and 17,092 acres of barley, yielding 449,512 bushels.

The question of irrigation receives some consideration, as the department is alive to its value to Southern Alberta, and some particulars are given concerning the irrigation experiment station to be started south of Calgary. The department are also reaching out after a better knowledge of the meteorological conditions of the country and give valuable tables relating to the rainfall and temperature. Interesting accounts are given of the work of weed inspection, gopher destruction and dairying. Reports are given of the condition of range cattle in the different districts and also of the horse, sheep, swine and poultry interests.

Owing to the unsatisfactory condition into which the brand registry had gotten, it was decided to reorganize the whole system and by using a simpler system to greatly extend the number of brands that can be used. This work has entailed a very large amount of work for the department. Reports on stock inspection show the absolute need of most rigid inspection by thoroughly competent men to safeguard the interests of stock owners as well as the health of the general public.

The work of the agricultural societies under the new ordinance is touched upon and a list of the societies, with their membership, amount of grant and other information given. Pound districts, stray animals, prairie fires and game protection are all suitably dealt with.

An interesting chapter is that on the extermination of predatory animals. The question of providing bounty for these pests is ably dealt with and a large amount of evidence given of the working of bounty acts in different American States. This admirable and useful report closes with short accounts of the hospitals throughout the west. It is a report that should be in the hands of every farmer and stockman in the west, and we welcome it as a valuable addition to our agricultural literature of the rapidly growing western country. The work lying before the department, its possibilities for doing good work and the breadth of its scope, is simply enormous, and The Farmer is pleased to see that the department officials realize this and are taking hold of it with a vigorous hand, one which we believe will only be held in check by the means at their disposal.

The farm horse does not need blinders. Blinders add so much more to the cost of harness. Do away with them.

In Twenty Years Time.

The Morden Chronicle has the following from one of the pioneers of that district:—

"Twenty-one years next June, your scribe came to Manitoba. At that time the country was a vast extent of prairie in its almost wild state. Occasionally a shanty could be seen and a small field broken. Oxen and the Red River carts were the chief means of transportation. The mosquitoes were much more numerous than now, and another interesting memory is the Indians, who were always glad to trade ducks, baskets and moccasins for flour or potatoes. They are rarely seen now. People were more sociable in those good old days and many a social or concert was held in the homes of the farmers. Also, dancing was carried on in the winters and everyone seemed happy. Nowadays, people seem to be absorbed in the getting of tin, and as for dancing, the young people are too pious.

In 1879 the farmers organized a school district, and at first it seemed a hard struggle, as all the settlers were not married and bachelors did not care to shoulder their part of the burden. How well is our first school-master remembered, and were he to return he would get a rousing reception. Only a very few of the first pupils are here now. What times we had in those days—snow-balling, tag and tom-tom-pull-away, leap frog and ball. We often wish ourselves back to sweet childhood, away from the cares of life.

The religious side of man was not neglected. The Rev. H. J. Borthwick, A.M., was the first missionary, and he worked hard, storm or shine, to carry the story of the Cross, and in many a home in Manitoba and North Dakota his name is associated with scenes of joy and of sadness; while apart from his ministry, he was a wise councillor and true friend. And although his locks are silvered now, we hope he may be spared to see many more changes in the country. Later, St. Andrew's and Ebenezer churches were built, and taken on the whole, the people have always been church-goers.

In time the country became divided into municipal divisions, and well we remember the first reeve and council elected. Among the councillors serving from this township, Martin Nichol sat for ten years at the Council Board; also John Borthwick (termed the South Dufferin Kicker) is of familiar memory.

Some one has said the character of the pioneer settlers in a country, determines the character for future generations. The majority of the first settlers are gone—some moved to other parts, while death has claimed quite a few, and ere another score of years pass away, there will be scarcely any of them remaining to tell the tales of early days, associated as they were with hardship and toil.

Note the difference now with Winnipeg as the metropolis and railway centre, and railways running into nearly all parts of the province.

Our educational system gives every boy and girl a chance to acquire an education. Provision has also been made for higher education in the way of colleges and a university. The laws are enforced, and on the whole the people are prosperous and contented. No famine or plague has ever visited our land.

The government of the country has done much to encourage education, agriculture and dairying; and, in fact, with so able a man as Hon. Thos. Greenway at the throttle of power, the country will always be safely guided and her affairs wisely administered.

Now, the churches are sending their missionaries into all parts so that the spiritual side of man will be cared for,

as no country or people can be great or prosperous without a knowledge of God. The public press is doing a good work in the land, supplying us with the news of the world, and the diffusion of truth. Before another twenty years pass, greater changes will be noticed in every way, and may liberty and truth never be hampered by any hierarchy or despot, or any person be permitted to dictate how we shall live or where we shall worship.

The steady demand for farm lands all over the province of Manitoba and in many places in the Territories is one very gratifying evidence of the progress this country is making. Every local paper has its own story of incoming farmers to buy land, and the rush to the frontier districts for homesteads is balanced by sales all round Winnipeg to substantial settlers. One Winnipeg paper gives a case of recent occurrence in the Rosser district: "A Portage Plains farmer purchased 1,000 acres of land near Rosser a few years ago for \$7,000. Two years later he sold 360 acres of the area for \$8,000, and has been harvesting thousands of bushels of grain off the farm each year since he secured it. One of the finest fields of wheat in Manitoba may be seen from the car window of the C.P.R. express as it passes this man's recent purchase, the balance of which he now holds for several thousand dollars in advance of the price he originally paid for the entire 1,000 acres."

At a recent meeting of the grain committee of the Board of Trade to consider the new Grain Inspection Act, S. A. McGaw, chairman of the committee, reported "that in accordance with the provisions of the recently recommended inspection act, that the board nominate six names for the survey board to consider all appeals against the inspectors' grading, the following names to be submitted: Messrs. S. A. McGaw, G. V. Hastings, S. Spink, A. Atkinson, F. W. Thompson and Stephen Nairn, and that the inland revenue department be requested to reconstruct the western grain standards board so that only persons resident west of Lake Superior be included in its membership; that samples of grain of not less than one pound be sold at a price of 5c. each to all wishing them and in bulk at \$1 per bushel." The report was adopted. The following boards were then struck: Grain examiners—Messrs. S. A. McGaw, N. Bawlf, D. S. McBean, S. Spink and Stephen Nairn. Flour and Feed—Messrs Stephen Nairn, G. V. Hastings, S. Spink, F. W. Thompson and C. H. Steele.

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WINNIPEG, AUGUST 20, 1899.



LAND REGULATIONS AND RANCHING.

Within the last few years the conditions stamping the whole of the southwesterly portion of the Territories as a "stock country," pure and simple, have gradually passed away. The cancellation of the leases under the old system, not subject to settlement, some four or five years ago, marked a new era in the history of that district. The crowding out of the rancher by the aggressive squatter is merely the experience of other grazing countries repeating itself here. It has been clearly demonstrated that the water supply available within the semi-arid area is only sufficient to irrigate some six million acres out of a total area exceeding sixty-four million acres. It may safely be taken for granted that the large irrigation schemes, some of which are at present in the process of construction or completion, will absorb the bulk of this water supply and utilize it upon farms of moderate size, situated at a very inconsiderable distance from

each other, and without making a reasonable area of waste or pasture lands tributary to every irrigated farm, which would, of course, from the very nature of the topography of the country and cost of construction be an impossibility in the majority of cases. Be that, however, as it may, the fact remains that there will always be a vast tract of country only fit for the ranging of stock. This fact may as well be recognized now as later on and the proper measures taken, before vested rights have to be reckoned with, to ensure the public domain as productive a future as possible and lend to the ranching industry those conditions of stability and security so necessary in the successful prosecution of any line of business.

When the old leases were cancelled the lessees were given the privilege of purchasing up to ten per cent. of their leaseholds at \$1.25 per acre, which most of them promptly did; the great majority of the stockmen, however, were not leaseholders, and would, therefore have to acquire land under the ordinary, or rather the extraordinary, Dominion lands regulations, providing, in addition to the homestead right, for a maximum purchase right to 640 acres, at a minimum price of \$3.00 per acre. This area is wholly insufficient for ranching purposes, and even if it were adequate, the price is altogether out of proportion to the actual business value of the land. According to the official estimate of the Department of the Interior, it requires a grazing area of twenty acres for each head of stock ranged or a capital expenditure of \$60.

It is clear that it is grossly unfair to charge as high a figure for twenty acres of land only capable of producing one forty dollar steer every fourth year, as for a similar area within the humid belt or irrigable portions of the country, yielding a profitable crop of 2,400 bushels of No. 1 hard wheat during a similar period. Extensive hydrographic surveys have now been conducted in the west for a number of years and sufficient data should be available to enable the Dominion Government to approximately locate those portions of the country which must of necessity remain what they now are—fit for stock ranging only. Having done this, liberal regulations should be framed to induce stockmen to acquire land and make improvements, thus converting a number of professional "bummers," in western parlance, into useful and enterprising citizens. At the present time a large number of these men graze their extensive herds on the public domain, without owning an acre of land in the country and are thus an actual burden upon their neighbors, inasmuch as they monopolize large areas of range while failing to contribute their just share of local taxation, or, in fact, anything. Under the existing state of affairs these men cannot be blamed. The land regulations are prohibitive and wholly unsuited to conditions in Western Assiniboia and Southern Alberta.

It may be urged that a stockman can lease a large tract of land from the government. Here again is an evidence of the absurd land regulations. These leases are not worth the paper they are written on, and no rancher in his right mind would dream of applying for one. Settlers may at any time enter upon the leasehold and homestead the best part, or the whole, of it, while the lease itself gives but a very uncertain tenure, being liable to cancellation at any time upon very short notice. Such leases furnish a medium of voluntary taxation without the usual *quid pro quo*. The regulations under which these leases are granted must surely have been framed by a very poor judge of human nature. The average western stockman does not believe in voluntary taxation under those conditions; the public domain is looked upon there as

everybody's game, and it is precisely this effort to "make hay while the sun shines," accentuated and encouraged by unsuitable land regulations, which is chiefly responsible for the notorious "happy-go-lucky" ranching methods and the absence of everything around the greater number of home buildings, which would make life, devoted to that king of all vocations (ranching), as pleasant and inviting as it surely ought to be.

CROP PROSPECTS.

The outcome of our grain crop is a matter of special importance to every one in Manitoba and the Northwest. Their quality, probable amount, and market values will affect not only farmers, but every business man in the country. We have been treated of late to the usual amount of irresponsible gush, about unexampled fertility and record crops, etc., but the practical question just now is how much substance there is behind all this talk—the same kind of talk that we have been in the habit of hearing at this season for about 20 years past. It will be well to try and blow the chaff out of this talk and get at the solid residuum.

The seed-time was about a fortnight late to start with and some loss has been caused by sowing tough and damp seed, but that does not count much on the total result. There has been no season with such an amount of summer rainfall, and as a result pasture and hay have been specially good. But this rainfall has not been so advantageous to grain crops on light lands as at first sight would appear. It came in the early part of the season in such volume as to batter down the surface and make a solid cake, in which the crop did worse than in the prolonged drouth of last spring, when the loose surface formed a mulch and kept the grain going till late rains helped it well along. The general testimony is that for light land the season has not been so advantageous as on a first view would appear, and we have a good deal of light land in the country. On the heavier lands that were not too low the growth has been very satisfactory, in some cases almost perfect. East of the Red River, especially near Winnipeg, the land was too wet at seed time and got too dry later on—the result being not at all promising for even a moderate crop. The general testimony is that crop weeds have been more kept in check this year than for years past. The weed seeds seem to have been largely destroyed last fall and those which did germinate this spring did so early and have been destroyed by the work of seeding. What weeds did start later on were kept down by the free growth of grain on all lands which the peculiar season suited. The benefit of this extra freedom from weeds will be appreciated in the cost of twine, in the labor of stacking and when the threshers get to work. Last year's excessive weed growth was the cause of great loss, from which a great part of our crops this year will be more free than for years past. So far this year there has been very trifling damage from hail and the chances are that this kind of loss will be very limited. Had Provincial Hail Insurance been started it is probable that this season's operations would have left a good balance in the treasury to be carried over for a less fortunate year. But that scheme has been shelved, with what ultimate advantage to the country remains to be seen.

So much for the bright side of the picture. There is nothing in sight, however, to justify the 50,000,000 bushels, about which we are told by irresponsible boomers and high-flying visitors. Grain deal-

ers who have gone over considerable stretches of country expect a fair average yield. There are splendid yields on land where skilful work has told, but bad work shows with equal distinctness. On all the lighter lands where rain storms were prevalent shortly after seeding, the surface was much battered, and this when drier weather followed, had a very bad effect.

Frost, too, has to be accounted for. It is not possible to tell for ten days yet just how much damage has been done, or how much more we may have. The extent of the damage from frost at quite a number of points where frost is known to have occurred, may be greater than many people are willing to admit. Rust on the leaf is pretty frequently reported, but that is not likely to cause much damage. All oats on well farmed land are likely to prove excellent. We may have a good harvest season, at any rate the grain will ripen very fast, and the heads will most likely ripen faster than the straw.

Latest advices show better prospects for prices than was the case weeks ago. The states to the south of us have had bad weather, and crops, in California particularly, have been much over-estimated. Prices as we write indicate 72c. at Fort William for No. 1 hard, that, with an average crop, means a living price for wheat growing.

STACKING.

Last year supplied some severe lessons on the importance of correct ideas and practice in stacking. The same consequences may not happen again for years and it is quite possible the season may end up without rain to injure even a badly built stack. But every practical farmer will agree that correct work takes little or no extra labor, the main thing wanted being attention to a few simple principles that any man of ordinary intelligence can carry into practice. We are therefore glad to publish in this issue the views of thoroughly practical farmers on the best way to stack. All will agree that the way to work is for the stacker to stand up and use a fork in placing his sheaves. For one thing this method keeps the man away from the outer row, which is thereby left more loose than the next row on which he stands, so that the heart is all the time more solid and more fit to bear the weight of the top, while the outer row being looser, will settle in such a way as to turn off the rain instead of leading it toward the centre. None of the writers point out the risk there is of drawing in the top too fast at the beginning. If too quickly drawn in, the rain may run down through the stack instead of running off. Of course the bottom of the sheaf should be turned so that the slope it got when standing in the field shall form the slope of the intake of the stack. But all the way up the extra firmness of the heart is the mainstay of successful work. To drive a light stake down through the top rows and then stick the finishing sheaves on it so as to spread over the tiers below makes the surest of all finishes and one that will stay as long as wanted.

—W. J. Kennedy, a recent graduate of the Iowa Agricultural College, has been appointed Professor of Animal Husbandry at the Illinois Agricultural College. Mr. Kennedy received two years' instruction at the Ontario Agricultural College before he went to Iowa. He was also one of the successful contestants in the students' judging contest at Omaha last year.

GOOD ROADS.

An old pathmaster wrote the other day to the Deloraine limes complaining of the careless way in which some cuiverts on the local road near him had been left, some of them a foot or more above the level of the grade. There has hardly been a district in this country in which public money, and statute labor, more particularly, has not been fooled away on abortive and half done work. Contrast this bungling and imbecility with the work done south of Glenboro, by the Card family, father and son. One or two other good men helped, but it would surprise some of the bumblefoots who make a mess of such work, if they were told in detail how much one or two men of the right spirit can get done over and above the regular dole of task work, when they set about it the right way.

The latest idea in municipal road-making has been broached by a councillor of Shoal Lake district. It is worthy of consideration and the scheme might work elsewhere if not in that particular section of country. His scheme is to borrow \$30,000 at 4 per cent. interest and running for a term of 30 years, with which four main roads could be built through the municipality under the supervision of a competent engineer, which would immensely improve the teaming facilities of the municipality. The interest and sinking fund charges for this expenditure would be, according to the councillor's estimate, \$2,200 per year, whereas the present expenditure on roads is \$3,00 a year and annually becoming larger. This would admit of the same rate of taxation being maintained as at present and still leave \$800 per year for maintenance of side roads.

The question of good roads is one that is rapidly coming to the front owing to the amount of fencing that is being done, cutting off trails and compelling the opening of roads, often through almost impassable places. It is a question not confined to Manitoba, but is equally as important in many parts of the Territories. In many places action will have to be taken very soon and we commend for consideration the above. If any of our readers has a better scheme we would be glad to hear from him.

JUDGING AT THE FAIRS.

The manner in which a great deal of the judging is done at the local fairs is very unsatisfactory and the cause of a great deal of heartburning and ill-feeling. In no place has this been more noticeable than in the live stock classes. In some places the best stock in the district is kept at home because the owner thinks his stock has been unjustly dealt with, the judge showing gross favoritism. A correspondent sets forth his views on this subject in our correspondence column in an article that is well worth reading. His proposition that the Territorial Government take over the matter of appointing judges for the local shows is a good one, which we are pleased to be able to inform our readers is being considered by the Territorial Department of Agriculture.

The new ordinance governing the agricultural societies that was passed at the last session of the Assembly, but which will not come into operation for a year or so yet, will have a strong tendency to cause an amalgamation of small shows wherever it is possible to do so. This will result in fewer shows, with larger prize lists, which, it is expected, will bring out larger exhibits, because the

prizes will be worth competing for. To ensure satisfaction and perfect justice to all, so that interest in the show will be deepened from year to year, most thoroughly competent men are required to fill the important post of judge. The larger local shows in Manitoba, and some in the Territories, possessing greater means, do now secure competent men to act as judges, but owing to immense distances in the west and lack of funds this is not always possible for the smaller shows. Here is where a competent man sent by the Department could do good service for the country.

The Farmer is pleased to note that the Territorial Department of Agriculture is alive to this situation and hopes that in the near future it will be able to meet the difficulty. It is a move in the right direction and especially so if the judges are also good speakers, so that they could give the reasons for their decisions. The judging ring could, for the time, be likened to a class-room and many practical lessons taught in a way that it is impossible to teach in any other manner. Rightly managed this work could be made of inestimable value. Under the new ordinance the agricultural societies are to perform the work of farmers' institutes, with a special grant. In this connection let us say that the Department can do no better institute work than can be done by sending capable men to judge stock and address meetings at the same time. Let the two go hand in hand and the fair serve a double purpose. Then the fair would be truly an educative feature worthy of the hearty support of every one. Should the Department find that it is unable to carry out this idea, we see no reason why the society, with its Farmers' Institute funds, might not engage a competent man to act as judge and to give talks on live stock and other kindred topics.

BEGINNING WITH PURE BRED STOCK.

Many farmers throughout the west have taken advantage of the low prices that prevailed for pure-bred stock during recent years to lay the foundation of a herd. A person moving among farmers is surprised at the amount of pure-bred stock that has been purchased in this way, and frequently very nice beginnings have been found in most unexpected places. One thing particularly noticeable, and one which at the same time is very gratifying, is the large number of really good animals that have passed into the hands of beginners. But, while such a good beginning has been made, from what we have seen of the way some of these animals are being handled we are compelled to ask ourselves, What of the future?

We have found men with very poor winter accommodation for cattle investing in pure-bred animals, expecting them to winter at the straw stack like the rest of their cattle, without any extra feed in the way of grain. On the other hand, we have found men who, having good stabling, looked after their stock so poorly during the winter that they were more than "spring poor" when the winter passed away. Pure-bred stock in the hands of such man can result in but one thing—disappointment and failure—and later, a disgruntled farmer.

We have met them. Rest assured, scrub treatment of pure-bred stock will give scrub results. The beginning of every improved breed of live stock that we value to-day, either for their fleshing or milking qualities, has been better care and better feed than the ordinary stock got. Give these conditions and pure-bred stock will give the quick and satisfactory returns

that have made them valuable, and for which we look, withhold them and disappointment will follow. It is right on this point that so many beginners are shipwrecked. How often one notices that the foundation animals in a newly-started herd are the best grown and carry the heaviest covering of flesh while none of their progeny have attained anything like their size or depth of covering. Why is this? Because the beginner has been doling out feed with a sparing hand and does not know that "the breed is in the trough." From the time the young animals are able to eat meal they should be forced along so as to make all the growth possible. They will make good use of the food fed them because they come of a line of stock that have grown accustomed to this treatment. In fact, where properly fed, they have in them the ability to attain at two years of age the size and weight that it takes ordinary stock nearly twice that time to accomplish.

We would like, therefore, to impress upon beginners the importance—we will make it stronger—the absolute necessity of liberal feeding in handling pure-bred stock in order to obtain satisfactory results. These are the conditions under which they were developed, under which they will give greatest profit and the conditions under which your neighbors expect you to keep them. Recently a beginner complained to us that he could not sell his young Short-horn bulls for anything more than the price of scrub bulls. A look at his young bulls told the reason at once. They did not look one bit better than scrubs, and why should his neighbors pay more for them? They cannot see that these animals are any better than their own stock, and if they want something better, something to improve their common stock, they will send hundreds of miles away to a man who does know how to feed. Beginners must learn to feed, so that they can convince their neighbors by practical example that their stock is better than the common stock, then there will be no trouble about selling for good figures. If beginners with pure-bred stock will follow the teachings embodied in the old adage—"feed is half of breed"—there would be less complaint than there is about non-success.

THE HOME SCHOOL OF AGRICULTURE.

The Nor'-West Farmer has done its full share in championing the cause of progressive agricultural education, especially as given in the admirable schools of Ontario, Michigan, Wisconsin, and last, but not least, in the neighboring State of Minnesota. On the experiment stations, which form a very important part of these institutions, as well as those of our own Dominion government, work is being every year done in all departments that this paper sets a very high value on and does its best to keep before the minds of its many thousands of readers.

But while eager that all those readers, both old and young, shall make that knowledge their own, we fear there is one kind of lore, in its own place quite as precious, that lies neglected, almost despised, because though within easy reach of every farmer and farm boy, they have a very slight idea of its importance. The lore of the schools cannot be over-valued, but in these last days that of common experience, the skill and wisdom that can be acquired only while doing the commonplace work of the field and the stable are more than half neglected, and to the same extent undervalued. There are, we fondly hope, quite a few among the young men and growing boys, who read this and other papers, that are ambitious to excel in their life-work,

whatever that work may be. There is no use in us, or any other man, preaching progress to men who have not ambition, and some amount of energy to back it. Even a horse that has not ambition is hardly worth hitching to a hay rack. Perhaps a good few of these same young men are thinking how much they could do and be if they had only the chance of spending a few sessions at the grand schools down in Minnesota or Ontario. And yet it is more than likely that most of these same young aspirants for the lore a college can furnish have never learned one-half of what they could and ought to have picked up on the half section where they think they are now wasting their talents in the drudgery of attending cattle and doing every-day chores. And, what is still more important in this connection is that, in addition to this neglect of every-day opportunities, the faculty of learning is lying more than half dormant. That faculty can only become strong by constant use and grappling with difficulties. The man who has no taste for and little knowledge of anything but a trotting horse knows quite well that horse will never amount to anything unless he is regularly worked, carefully trained, and at every fitting opportunity pushed to the utmost of his ability. The difference between a young farmer and a trotting colt is this: The colt, outside of the faculties with which he was born, depends on some one outside to provide him with food and training and equipment, if he is ever to be worth leading out of the stable door. The man, whatever help he may get from outside, must be in the main self-made and self-taught. From what school or college did our Mackays and Bedfordts, our George Hopes and James Yules graduate as Masters of the Farming Art? There are scores of just such men right here in Manitoba whose opinions we value and respect and delight to publish, that with just such opportunities as are open to every young man here and with much less time to learn in, have grown rich in practical wisdom and fairly rich in the worldly wealth such as wisdom usually earns and always well deserves.

To be a skilled judge of live stock is an object of worthy ambition for every young man on a farm. The other day at the Omaha International Exposition, three students of the Iowa Agricultural College won valuable prizes and well-merited honor for their skill in stock judging. Two of them were Ontario bred and educated in its Agricultural College. One was English, but what college teaching he had was got in Iowa. But all three had been bred on farms as every-day farm workers, and two of them spent years working on stock as hired hands before entering college. From this kind of work, says Prof. Craig, their late teacher, they got the practical skill and insight which furnished exactly the foundation they needed for their more mature achievements. After that start, what they needed still to learn was the power of analyzing and discriminating by the help of skilled training, and the systematic knowledge these model colleges and skilled professors furnish and guide. Without the self-acquired teachings of the home school all the superstructure would have been theoretical, imperfect and insecure.

A recent issue of the Breeders' Gazette gave an illustration of the monument put up in Illinois to Willie Watson, the great Scottish stockman, by his American admirers. Willie was his father's "byre man" in his raw youth, and at the cow's tail had observed and studied to such good purpose that before he was 21 some one advised the managers of the Royal Irish Society to get him to act as judge along with two noted English breeders. The two fine old yeomen and the Forfarshire "loon" got on pretty well together till a fat ox came on that Willie backed for first place against the judgment of the older men. Their

choice got the ticket when alive, but at the block Willie's beast was a clear winner. Perhaps, had he lived, he could have given pointers even to the Iowa College champions. The moral of this little nomily is obvious. To become a skilful and capable farmer the grand first course of study is to get hold of the knowledge which by observation and thought and reading and discussion can be as easily got at home as anywhere else, and to follow that up through whatever difficulties may obstruct. In that way a world of knowledge and a great expansion of the faculty of knowing may be got on the loneliest prairie farm. It needs no college to make a student, though that may prove a valuable stage of the student's career. Self-taught and home-taught "indoctusque sapiens," the wise old Roman poet words it, is the road open to every farm boy in the west, and there are more helps to progress now for such students than ever before. "Get close to yourself, Jim, and do your level best," shouted a boy to his chum, who was hard pressed in a boyish game. If you want to be anything worth looking at, do exactly the same thing.

EDITORIAL NOTES.

—We had the pleasure this month of a visit from Mr. Lud. K. Cameron, the founder of The Nor'-West Farmer. Mr. Cameron is now Queen's Printer for the Province of Ontario.

—In the last days of the session at Ottawa provision was made to relieve from personal responsibility those who had backed notes given years ago for seed grain. These notes will be charged against the lands for the seeding of which the grain was procured.

—A manufacturer of tomb stones from one of our cities recently visited a rapidly growing settlement in Northwestern Manitoba. The local paper in reporting his visit, adds: "This was his first trip and he was so much pleased with what he saw that he expressed his intention of returning at an early date."

—From the sales of implements of all kinds that have been made in every part of the great west this season one begins to realize the amount of settlement that is taking place and the enormous market being opened up for all kinds of products. Wherever settlement is taking place land is rising in value, and it will not be surprising if the next few years sees a regular land boom all through the west. One thing is certain, eastern implement men are going to be taxed to supply the demand upon their resources during the next ten years.

—It is reported that owing to the extra rainfall of the season many thousand acres of the best hay lands round Lake Dauphin, on the west side especially, have been submerged so as to destroy the whole crop. This is one of the cases in which dredging the outlet of the lake would add immensely to the value of the lands surrounding it, and it appears to us that the Swamp Lands Act could scarcely be applied with greater advantage both to the government and all parties concerned than in the reclamation of the valuable alluvial lands surrounding this lake. There are none richer in Manitoba.

—The present crop in Manitoba and the west promises to be one of the largest ever taken off. Why not put up the calves and feed them for baby beef? If started now on good pasture, with grain, they should

be in fine shape by next June. Commence with a pound or so of chopped grain and bran, increasing as they become accustomed to it until they are getting ten to twelve pounds a day by spring time. Rightly handled, they should return a good profit, and certainly a much better one than letting them run at the straw stacks, as they too often do. Enterprising feeders should buy up a bunch of calves and try growing baby beef this winter.

—It has generally been believed that the climate of the Northwest is one of the healthiest in the world, but in some instances that statement must be taken with a few grains of discount. In the village of Langdon, North Dakota, which lies a few miles south of the Manitoba boundary line, the consumption of liquors for medicinal purposes alone has amounted to \$13,500 within the last three months. This fact is proven by the affidavits filed in the local drug stores, and if the consumption of other medicines in the district bears any proportion to the call for spirituous medicines, Langdon ought to be nearly as unhealthy as Manila. Perhaps this enormous consumption of one particular line of medicines may be due to the fact that North Dakota is a prohibition state.

—There is a gradual upward tendency in the price for meat at the great central market at Chicago, and the best judges say that it has not yet reached its limit. The average price for beef for July, 1898, on the Chicago market was \$4.95. In July, just past, it was \$5.55, a rise of 60c. per cwt. in one year. The immense corn crop now being secured in the States will more than ever stimulate the demand for early feeding stock, and instead of 3 and 4-year-old cattle, baby beef will be fed on a scale never before thought of. Yearlings of the right sort will be in great demand, and in some cases with clever handling some of the beef put on the market down there next spring will hardly be allowed to live the year out.

Live Stock Impounded, Lost, or Estray.

Following is a list of animals impounded, lost or estray, since our August 5th issue:—

Impounded.

Altamont, Man.—One steer, color white; three steers, color red and white; one heifer, color red, with white spot on head; two heifers, color roan; all yearlings. Andrew Wagner, 14, 5, 8w.

Chater, Man.—One gelding, color chestnut, with one white hind foot; one gelding, color chestnut, one hind foot white, aged. Frank Woodcock.

Elton (municipality)—One large horse, color bay, white feet, white face, and leather halter on head; one large mare, color bay, three white feet, white face, with leather halter on head; one mare, color bay, 3 years old, white face; one mare, color sorrel, small, with bay colt at side with white spot on face, white hind feet. W. Madder, 22, 11, 17w.

McKenzie, Man.—One mare, color bay, three white feet, white stripe on face, about 4 years old, indistinct brand on left hip, halter on head. J. Jillett, 4, 2, 9w.

Odanah (municipality)—One yearling steer, color red, with small white spots on forehead. B. Berdome, 30, 14, 17w.

Parkisimo, Man.—One gelding, color bay, 2 or 3 years old, small white star on forehead. G. Rowan, 36, 13, 27w.

Whitewood, Assa.—Two red steers; one roan steer, one red and white steer with bell on, all about 3 years old, two yearling steers, one red and white, one red; two red and white heifers; one red heifer, two years old; one red heifer calf; one red bul calf. G. H. Brownrigg, 22, 16, 1 w2.

Tiree, Assa.—Two aged bay mares, one light bay horse, 4 years old, branded E upside down, F T on left hip. Alex. Campbell, 2, 19, 8.

Winnipeg, Man.—One horse, color bay, four white feet, white stripe down face, branded indistinctly on right shoulder, about 7 years old. F. Collins.

Lost.

Austin, Man.—One black horse, small white spot on face, sweeny on left shoulder, brand T on left hip. Duncan Johnson.

Blackwood, Assa.—One grey mare, 1,400 lbs., branded 115 on side, O in diamond on hip, dark mane and tail. Reward. W. J. Bonnor.

Brookside, Assa.—Nine head of cattle, branded 5 F V on right rib, mostly dry cows and 2-year-old steers. Reward. A. Butterworth.

Dauphin, Man.—A yoke of steers; both animals marked red and white; straight horns. Reward. L. Cohen.

Deleau, Man.—One light bay gelding, with white stripe on face, two hind feet white, black mane and tail; left with halter rope on head and fastened to neck, and a new bridle. D. Deleau.

Deloraine, Man.—One dark grey horse colt, 1 year old, a small piece cut out of his right ear. John Conroy, 19, 3, 23.

Deloraine, Man.—One bay horse, branded on left shoulder with letter T, weighs about 1,100 lbs. J. Legault, 22, 1, 22.

Edmonton, Alta.—Black horse, 14 hands, 800 lbs., white star on forehead, white mark on nose, left hind foot white, shod all round; branded I-L or 41. W. H. Cooper.

Glenlyon, Man.—Black filly, 2 years old, large white star on forehead, a little white on hind foot; also one bay gelding, 3 years old, a few grey hairs on forehead. Reward. W. H. Lawrence.

Kaposvar, Assa.—A roan horse, white spot on face, hind white feet, 3 years old. Jos. Clell, 22, 1, 18.

Moose Jaw, Assa.—Two red heifers, 4 years old, branded J U I on right side. J. H. Smith.

Moose Jaw, Assa.—One light bay gelding, about 15 hands high, white stripe on face, three white feet, branded lazy B on right shoulder. Geo. Tapley.

Moose Jaw, Assa.—One bay pony gelding, aged, branded M P on left shoulder and quarter circle over cross on left hip, white star on forehead and small white stripe between nostrils. Reward. W. J. Heron.

Pipestone, Man.—One dark brown gelding, 3 years old, banged forelock, one hind foot white; \$5 reward. H. M. Porteous.

Pleasant Point, Man.—A grey horse, about 1,550 lbs., 5 years old. R. Calvert.

Plumas, Man.—One chestnut mare and one bay horse with halters on; one bay mare colt, 2 years old, with white stripe on face, and one buckskin pony with sucking colt. A. E. Chandler.

Portage la Prairie, Man.—One grey filly, a year and a half old. Reward of \$3 if returned to R. Roe's stable.

Portage la Prairie, Man.—One iron grey horse, dark on hips and thighs, about 9 years old, about 16 hands, about 1,400 lbs., scar on left hip, very plain, mane long on left side and partly clipped in front of shoulder, good length of neck and body, leggy, good traveller, with head well up. \$10 reward for information which will lead to recovery. Robert Fletcher.

Regina, Assa.—One dark gray mare,

about 8 years old, and 4-year-old bay colt. Reward. D. Peterson, Palmer House.

Rounthwaite, Man.—Pony, bay, white face, four white feet, branded LB on left shoulder, 5 years old; colt, light bay, one hind foot white, 2 years old, both mares. E. C. Jackson.

Sunhymeade, Assa.—A number of horses branded a combination J L on left hind leg, which looks something like an anchor, and yearling not branded. \$1 per head, if delivered in Whitewood. J. de Langle.

Virden, Man.—One sorrel broncho gelding, white stripe on face, hind feet white, 5 years old, and branded figure 7 on left jaw, had rope attached to head. Not broken to harness, 1,100 lbs. Reward. Simpson Bros.

Whitewood, Assa.—One dark brown 2-year-old filly, no white marks, no brand. Reward. H. S. Pidcock.

Whitewood, Assa.—One bay pony mare, branded C J, a white spot on forehead and white spot on the right front leg; also middle-sized, iron grey mare, branded H, both haltered; \$5 reward. Michael Musty.

Wolseley, Assa.—One dark bay filly, heavy draft, 2 years old, white star on forehead. \$5 reward. G. C. Warren.

Wolseley, Assa.—One dark brown mare with white star on forehead and small white mark on upper lip; rather hollow backed; had head stall on; branded H R. J. Hunt.

Estray.

Bates, Man.—One pony, color bay. W. J. Waddell, 35, 6, 3w.

Boissevain, Man.—One grey and one dark roan horse with white face. John Wilson, 15, 2, 20.

Edmonton, Alta.—One yearling bull, red, white spot on face and on both hind legs. Hugh McKay.

Grenfell, Assa.—One light bay mare, aged, lame. N. G. Morrow, 2, 18, 8.

Grenfell, Assa.—One black horse, hind feet and one fore foot white, a little white stripe down face. John Lamb, 6, 16, 6.

Henrietta, Sask.—One grey mare and one brown horse, both branded E A on right shoulder. Geo. Ness.

Pheasant Forks, Assa.—One cream stallion; one bay stallion with white feet; one light bay stallion. F. W. Pinder, 4, 22, 7.

Regina, Assa.—One bay filly, 2 years old, right hind foot white, no brands. George Mollard, 13, 19, 19.

Thunderchild's Reserve—One buskskin pony, white spot on forehead, black tail and mane, both cut short, and four white legs. Not branded. Rev. D. D. MacDonald.

Glanders are showing up in the Territories. John Thompson, Jr., Ellisboro, had four out of five valuable horses shot recently. Two farmers at Chickney were brought up at Regina for taking horses out of a quarantined herd. One who had had a previous warning was fined \$10 and costs, the other \$3 and costs.

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NOTICE.

Estrayed on sec 6., tp. 8, rge. 22, one bay filly, three years old, white hind feet, star on face.

One bay filly, one year old, white hind feet.

Postmaster, Dempsey, Man.

July 8, 1899.

Market Review.

Winnipeg, Aug. 21, 1899.

August is usually a slack month, but all wholesale houses just now are very busy shipping fall orders and report a very much enlarged business. Implement dealers also report an increased turn-over and the demand for threshing outfits is large, and it is taxing some of the firms to meet their orders. Some anxiety has been felt about the wheat crop on account of the recent wet weather and the close approach to frost, but the general tone of reports seems to indicate that the crops are all right. Wheat cutting is in full swing in Southern Manitoba, and next week will see it general throughout the country. The first of the harvest excursions from the east has arrived and others follow next week. Building operations continue brisk in Winnipeg, and a large amount of building is being done throughout the country. The general business outlook throughout the whole Dominion is very bright, and Canada is enjoying her long delayed growing time, especially in the west, where increased settlement is giving increased activity to all lines of business.

Wheat.

There has been no such lively feeling on the Chicago market for a month past as has been seen for the last few days. Prices this day fortnight were almost 3 cents below to-day's quotations for September wheat. Two days ago good shipping orders from the continent were received, but that alone would not have produced the spurt now on. For one thing the weather south of us has not been at all favorable, and there is not such a yield in sight all over the States as to keep down the speculative value of wheat.

This morning's quotations at Chicago for May wheat are 71½c.; Dec., 74c.; for No. 1 hard, Fort William, 70c.; is the nominal quotation.

Returns of last week report 54 cars of wheat inspected, which graded as follows: No. 1 hard, 6; No. 2 hard, 2; No. 3 hard, 2; No. 1 northern, 18; No. 1 spring, 2; rejected, 0; no grade, 20; condemned, 4.

Oats

The Winnipeg figures for the last month, say 40c. for good feed, are unchanged, but new oats may come in in less than a fortnight, which will help to break the present rates.

Flour.

Prices are unchanged from last fortnight's quotations. Hungarian, \$1.85; Glenora, \$1.65; Manitoba, \$1.35; bran, \$9.50; shorts, \$12.50.

Horses.

It is simply astonishing the way good working horses continue in demand. They bring from \$100 up, according to quality.

Cattle.

Grass cattle are moving quietly from the ranges. They are well fleshed and bring from 3c. to 3½c., while extra choice ones will run up to 4c. weighed off the cars at Winnipeg. The range cattle are of a much better quality than the great majority of butchers' cattle offered at local points. Dressed beef is worth from 6½c. to 7c. a pound.

Sheep.

At present offerings are light, the western sheep not being ready for market yet. Good quality brings 4c. to 5c. off the cars, according to quality, while dressed carcasses bring locally 8c. to 9c. a pound.

Hogs.

Offerings coming in slowly from all parts, but not as many as the packers can handle. From 4½c. to 5c. per pound live weight off the cars at Winnipeg is the go-

ing price for best selections. Dressed pork is worth from 7c.

Butter and Cheese.

Creamery Butter—The demand for Canadian creamery butter on the English market is growing and prices have been advancing recently, choice lots having sold as high as 99 and 100s. per cwt. This has had a tendency to stiffen prices here. Dealers have been paying 16c. to 17c. and in some cases 18c. a pound for butter f.o.b. at the factories. Makers are now asking 19c. and are likely to get it. The government creameries are the only ones with early make on hand.

Dairy Butter—The supply is fairly large and the quality poor. One firm estimates that only 25 per cent. of the dairy butter coming on the Winnipeg market is really a first-class article. Another places the estimate at about 40 per cent. outside of the Mennonite districts, while from those districts not 10 per cent. of the make will take first-class rank. Price vary from 8c. to 13c. a pound delivered in Winnipeg.

Cheese—The cheese situation in the east continues strong and active. Reports go to show that the English make this season is smaller than usual, and that owing to business being brisk for workmen more cheese is being eaten. The stocks held on both sides of the Atlantic are reported small, and owing to the dry weather in Ontario pastures are shrinking, and consequently the make. Prospects are thus bright at present for good fall prices. Finest export cheese are worth at Montreal from 9½c. to 10c. In sympathy with this condition of the market prices have advanced here during the past two weeks from a 1c. to 1½c. a pound. Finest quality are now quoted at from 9c. to 10c. at the factory.

Poultry and Eggs.

Poultry—Very little coming in. Well-grown spring chickens are worth 40c. a pair and fowl 60c. a pair. Turkeys are worth 11c. to 12c. a pound, live weight, and geese 9c., but few moving.

Eggs—Supplies coming in quietly, and are worth 14c. to 15c. by the case, delivered in Winnipeg.

Potatoes.

New potatoes are worth about 50c. a bushel in quantity delivered in Winnipeg. Some lots from south of the line have been successfully handled.

Hides and Wool.

Prices for hides remain unchanged on the basis of 6½c. for No. 1.

Prices remain stationery at 8c. for fine and 7c. for long wool, unwashed.

Binding Twine

No changes have taken place in binder twine prices since last report.

Among the Breeders.

Joseph Taylor, Fairfax, had a valuable pedigree Shorthorn heifer killed last week by lightning.

D. Hysop & Son, Killarney, have purchased the young Shorthorn bull, Royal Hope, from J. G. Washington, Ninga.

A. W. Ivey, Hargrave, Man., writes:—"In your account of Virden fair you credit Mr. Struthers with owning Young Bushfield. I wish you to correct this, as I am the owner of this Thoroughbred stallion. His sire is Bushfield and his dam Charmier, both imported by Lord Elphinstone. He is six years old, well-broken, and a good getter. He is now standing in S. Clark's stables, Virden, for service."

S. J. Thompson & Son, Woodbine Farm, Carberry, Man., reports: "Our Yorkshire hogs are doing well. Oak Lodge Rose Belle II farrowed a litter of ten; they are

a fine lot and doing well. Our breeding stock is in good condition. Among recent sales are a boar to Philip Whittaker, of Wetaskiwin, Alta.; a sow to M. Ellerington, Carberry, and a boar to James A. Smith, Austin, Man.

J. E. Smith, Brandon, has just sold ten fine two and three-year old heifers to Folger and Pope, Lacombe, Alta. They are all by his stock bull, Stanley 2nd, and have been served by a recently purchased imported bull, Golden Measure. This bull was purchased from John Isaac, Markham, Ont., and was imported by him some time ago. His sire is Golden Count, of J. D. Willis' breeding. His dam is Mistletoe 5th by Scottish Archer.

A. D. Gamley, Brandon, writes that he has sold his sweepstakes Leicester ram, Gaunt's Revenue, 2337, to M. Huston, of Carman, and could have disposed of him to one of Ontario's well known breeders, but his order came too late. Mr. Gamley has also sold a shearing and ram lamb to William Hedley, Oak River, and J. W. Shanks, Pettapiece, N. W. T. Sheep are doing well, and he is receiving lots of enquiries. He expects to begin cutting wheat about the 22nd; crop prospects are good for wheat, oats and barley.

Ernest Hysop, Killarney, Man., writes: "A pair of my registered Cotswold yearling ewes sheared me 38 lbs. of wool this season; also a ram I bought last fall from C. T. Garbutt, Claremont, Ont., sheared me 26 lbs. In each case the sheep were washed before shearing. They were all March, 1898, lambs. The two ewes were sired by my old stock ram, Wellington, twice sweepstakes ram at Winnipeg, also sweepstakes at Portage, Brandon and Regina. The shearing ram was sired by the imported ram, Fitzsimmons, twice second prize at Toronto Industrial. What's the matter with Cotswolds? I would like to hear what the Canadian record in wool production is."

The famous old Clydesdale stallion Macgregor, son of Darnley, has just died at the age of 21. This grand horse must ever remain one of the historical draft horses of the Scottish breed. Foaled in May, 1878, he was bought from his breeder, Robert Craig, by A. & W. Montgomery for \$325 as a yearling. As a 2-year-old he was 1st at half a dozen of the best shows in Scotland. He was withdrawn as an individual competitor after getting 1st at the Highland in 1882. Afterwards his group of colts nearly always won, but were beaten in a memorable contest by a Lord Erskine group in 1885. He was always a sound, healthy, good tempered horse and his stock has proved equally desirable. His great rival, Prince of Wales, lived to be over 22 years old.

R. McKenzie, High Bluff, sends the following list of sales made during the recent fairs:—"To H. R. Keyes, Midway (Showman), 1st prize boar under 6 months at Winnipeg and Brandon fairs; second prize boar to A. Nichol, Alexander; young sow in pig to John McQueen, Carievale, Assa; a prize-winning boar to Wm. Lidster, Birtle; boar to J. F. Mutch, Pilot Mound; two pair of sows to Geo. Vincent, Brandon; one pair to T. W. Wilson, Glenella; pair to Alex. S. Florence, New Lannon, Alta.; (this is the third pair sent to Edmonton station this summer); one boar to A. B. Potter, Montgomery, Assa; a young boar to Robert Hope, Carberry; a boar out of the first prize litter to D. H. Hobbs, Forcst River, N. D. I still have left for sale a lot of young sows from 2 months old up to 6 months, out of the largest stock I have, and a few good young boars. Perfection is doing well, though not in show condition, as I am using him as a stock getter this year. He has to his credit eleven first prizes as a yearling."



Pruning in the Garden.

A little attention now in the garden will save trouble next year, and increase the ease and comfort with which the work can be done as well as the fruitfulness.

If not done already cut back the tops of the new raspberry canes. If this had been done to the new growths of the red rasps when about three feet high and to the black ones when about four feet high, they would have kept their upright growth, grown more stocky and the side branches would have grown out, some of them so long that they too would have to be pinched back. The stout upright canes will stand the snow better and also make it more pleasant working among them and gathering the fruit next season. Besides, the wood ripens earlier and the canes will stand the winter better. If you haven't cut back the new growths try it and see the difference it will make in their growth.

Successful melon growers pinch back the vines when the melons have grown to the size of a goose egg. There perhaps may not be so many melons, but those you do have will be larger. You have a larger melon because the growth goes to the fruit instead of to extending the vine. The same may be said about pumpkins and citrons and cucumbers, if large sized ones are wanted.

The Western Horticultural Society.

This society has recently issued its annual report for the year ending March, 1899. It also contains the papers read before the society in that year, a good few of which have already appeared in The Farmer, but are here presented in collected form. They are: "Hedges," by S. A. Bedford, Brandon; "Apple Growing in Winnipeg," by W. G. Fonseca; "Apple Growing in Minnesota," by Wyman Elliot, Minneapolis; "Notes on Brandon Flower Show," by P. Middleton, Brandon; "Plums for Manitoba," by T. Frankland, Stonewall; "Lessons of the Past Year," by A. P. Stevnson, Nelson; "Fruit Growing in the Territories," by A. Mackay, Indian Head; "Bee Culture," by J. J. Gunn, Gonor; "Forest Conditions of the Northwest," by E. F. Stephenson, Winnipeg; "Pests of the Garden," by Thos. Oldham, Brandon. These papers are all worthy of careful second reading.

Yes, those weeds in the garden are a great nuisance, but if it wasn't for them the soil would often fail to get the stirring that the plants need, so you see there is no great loss without some small gain."

A remarkable collection of Japanese dwarf plants has been exhibited in London. Not one was less than a century old, and the tallest was only 18 inches high, although it had all the characteristics of a forest giant. These trees are dwarfed in their growth by man, not by nature.

There is no better way of fighting weeds than using close-growing crops against them. This is particularly true

in the farm garden. Few farmers think of taking a second crop off land in their garden that has had early vegetables on it. Once the crop is off the weeds are allowed full possession. Why not sow rape or turnips on these plots. They will help keep the weeds down and will make feed. If nothing else has been accomplished, the weeds have been kept down.

While at Carberry fair we had the pleasure of a feast of raspberries from the fine garden of S. J. Thompson. His raspberries are doing well and are heavily loaded. He has on a small patch all the berries the family can use and will likely have some to sell. With a little care every farmer could have just such a berry patch; it would add to the pleasure as well as the variety of the farm table. We found currants doing well also, but with gooseberries he was not so successful. Potatoes were doing nicely and from a few hills we saw pulled up will turn out well. Sweet peas, beans, corn, cabbage, cauliflower, etc., all go to make up a useful garden crop, and a great help to variety on the table. Not the least interesting crop around the buildings is that of mangolds. They are growing nicely and promise a nice lot of juicy winter feed for both pigs and cows.

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Territorial Agricultural Societies.

In this issue the short sketches that have been given in these columns of the Agricultural Societies of the Territories will be brought to a close.

Pheasant Forks.

The Pheasant Forks agricultural society was organized in the summer of 1887 and held its first fall show on the 28th of September of that year. It has continued to hold annual exhibitions up to the present time. The leading features of these exhibitions have been the cattle and dairy exhibits, which have certainly been creditable, and have been the means of keeping up interest in these branches of farm industry. But, while these classes have had special attention, other classes have not been overlooked. The improvement in the horse exhibit during the past five years has been marked and such classes as grain, roots and vegetables, sheep, swine, poultry, domestic manufactures, ladies' and children's work have been exceedingly well represented. The membership has steadily increased during the past few years. In 1897 it numbered 61, in 1898 it was increased to 113, and is expected to reach 150 this year. In 1898 in the neighborhood of \$500 was offered in prizes, and after all prize money was paid out and other expenses met, there was in the hands of the treasurer \$143.00. The contract has been let for the erection of an agricultural hall that will cost about \$550. The secretary-treasurer of the society is Thomas M. Bee and its worthy president Andrew Johnson.



Andrew Johnson,
Pres. Pheasant Forks Agric.
Society.



Thos. M. Bee,
Sec.-Treas. Pheasant Forks
Agric. Society.

East Moose Mountain.

The East Moose Mountain agricultural society was organized in March, 1897, the first president being R. M. Bird. The society has been very successful, the average membership being about 125. An annual show has been held ever since organized, the strong points in the society's work have been the encouragement given to the use of pure bred sires for the improvement of their flocks and herds, and the efforts put forth for the improvement of seed grain. Each prize winner is



W. Pigott,
Sec.-Treas. East Moose Mtn.
Agric. Society.

bound to send to the secretary an application a description of the methods he followed in producing the article that won a prize at the annual show. This is a feature which, if followed up and the papers, describing methods followed, read at institute meetings during the winter, could be made productive of a great amount of good. The society will hold their annual show this year in October and an interesting feature of this year's exhibit will be a case of noxious weeds which has been promised by Angus Mackay, of the Indian Head Experimental Farm. It is hoped that this will be a most useful object lesson and show visitors to the fair the most harmful of the weeds so troublesome to the farmer. The president is T. L. Neish and the secretary-treasurer, Wm. Pigott.

Fish Creek.

This is one of the most successful of the western societies in the territory lying south of Calgary. Here the directors have put forth efforts to make a good exhibition and have generally succeeded. Last year's show was a most successful one, the improvement in all classes of both horses and cattle was very gratifying. Great interest is also taken in poultry and a good exhibit usually made. Dairy products are not as a rule a big exhibit, but the quality is usually of the best. It is not likely that this society will have a show of its own this year, having agreed to join with Calgary in holding a big show. A. G. Wolley-Dod is the sec.-treas. of this society.



A. G. Wolley Dod,
Sec.-Treas. Fish Creek Agric.
Society.

Broadview.

The Broadview agricultural society can truly be said to be the oldest agricultural society in the Territories, having held its first annual exhibition in the fall of 1883. The next annual show will be its 17th and it will be held on Sept. 26th. From the first the society has been favored by having directors who take a great interest in the society and its work and who have tried to keep pace with the times and keep the society in the front rank of the procession. A good display of stock is always to be seen at this show and the directors are justly proud of the success their show has attained. The present officers are: Pres., H. McKenzie; vice-pres., Joseph Cope; sec.-treas., W. C. Thorburn. Directors: J. Crull, Wm. Fell, R. Robinson, C. Moulding, A. Welch, Jos. Collar, A. Bander, R. White, C. R. Boulter, A. W. Wallingham, W. Dixon, C. P. Durmody, Jas. Gathercole.



H. McKenzie,
Pres. Broadview Agric.
Society.

Central Assiniboia.

This may be looked upon as one of the younger agricultural societies, yet one of the pioneers in a movement that is expected

to become more general throughout the Territories in the near future. The three societies of Fort Qu'Appelle, South Qu'Appelle and Indian Head, finding that they were too near each other for successful individual shows, agreed to unite to form a union show, to be held at each point in rotation. In 1897 the first union show was held at Fort Qu'Appelle, last year at Qu'Appelle Station and this year at Indian Head. The interest taken in the show has been increased and by uniting their forces a prize list was made up which this year amounted to \$3,000. This means prizes worth competing for and the result is a large entry. The fair this year at Indian Head was a most successful one and there should be a large surplus. The presence of the Experimental Farm was, no doubt, an inducement to many who came in on the excursion trains. The directors went to considerable expense fitting up temporary shelter for stock, etc. Owing to the fair being held at different points each year, they will always be at some disadvantage and expense for tents and fixtures, as the local society is not likely to go to much expense for buildings that are used only once in three years. As the society grows and need is felt for more suitable accommodation, the question of a permanent location will, no doubt, come up for settlement, sooner or later. The money now spent in temporary improvements would go a long way in permanent improvements if laid out with that end in view. Angus Mackay, Supt. of the Experimental Farm, is the worthy president of the Indian Head society and for the year of the union association. A. W. Sherwood is the efficient sec.-treas. The society has good grounds and is in a flourishing condition.

The South Qu'Appelle society was organized in the fall of 1886, and held its first show the same fall, and one every fall until the union shows were started. The membership has increased steadily and now numbers 167. A plan that has worked well in securing members is to have an annual ball during the winter and tickets to this also include membership in the society. The society's annual ball has come to be regularly looked for as the event of the season. No grounds have been purchased. Shares have been taken in the creamery. The latest move is the purchase of two pure-bred Shorthorn bulls for the use of the members of the society. The service fee to members is 75c. and to non-members \$2.00. The farmer who has the care of a bull gets \$25. There is some talk of having a grain exhibition this fall. J. Doolittle has been sec.-treas. since 1893, first sec.-treas.



J. E. Battell,
Moosejaw, Assa.

being the present Commissioner of Agriculture for the Territories. James Smith is president this year and 2nd vice-president of the union society.



Jas. Smith,
V.-Pres. Central Assa Agric.
Assoc.

Fort Qu'Appelle society has the honor of sending the largest number of cattle to the union shows and thus makes a strong link in the three-fold cord of the union. If the usual rotation is followed it is her turn to have the union exhibition next year and we may certainly look for something good. A. McDonald is president of the society and 1st vice of the union. R. Williams is the sec.-treas. of the society.

Moosomin.

The Moosomin agricultural and industrial society has its head-quarters in the enterprising gateway town of Eastern Assiniboia, Moosomin. It is surrounded by a well-settled district admirably adapted to mixed farming.



J. M. L. Young,
Pres. Moosomin Agric. Soc.

The settlers, hailing mostly from Ontario, are thrifty and a fair should succeed well at this point but for some reason the society has not flourished as it should have done. Some of the reasons given for the lack of interest are that the prizes are too small to induce exhibitors to come out, the time of the year

is unsuitable, farmers being busy threshing or plowing, and that the time of the year is unsuitable for showing stock. The number of small fairs in this district, no doubt, detracts some from Moosomin and under the new ordinance an amalgamation of some of the shows will, no doubt, be effected. The membership last year was 138 and the last two years show some revival of interest in the society. The entries in 1896 were only about 400, in 1897 between 500 and 600, and in 1898 they ran up to nearly 1000. The directors are pushing a head this year and expect the best

show in the history of the society. The annual exhibition is held during the latter part of September and will this year be held on the 27th. The society own their own grounds, 13½ acres inside the corporation limits. It is the intention to form a Farmers' Institute this winter. J. M. L. Young, the president, is earnestly working in the interests of the society and so is the energetic secretary-treasurer, J. Anderson.



Jas. Anderson,
Sec. Moosomin Agric. Society.

North-East Assiniboia.

On the banks of the Big Cut Arm Creek, in Eastern Assiniboia, is one of the oldest settlements in that part of the Territories. Pioneers, chiefly from Ontario, were attracted to this district some fifteen years ago by its running water, rich lands and fine scenery, and formed the beginnings of the present successful settlement of Kinbrae. The district is well adapted to stock-raising. The North-east Assiniboia agricultural society was formed in 1886 and incorporated in 1888.

It has held a successful annual show since its inception at Kinbrae and is, therefore, entitled to rank as one of the oldest in the Territories. The directors lately decided to change the place of holding the show from Kinbrae to Churchbridge, on the M. & N.W. Railway, as it was a larger centre and greater interest would thus be aroused in the show. The sec.-treas. is James Nixon.

Battle River.

Battle River is one of the oldest settled districts of the Northwest. At present it is a little out of the way, having no railroad, but once it is favored with the iron horse people will be surprised at the



R. H. Speers,
Pres. Battle River Agric. Society.

growth and development it will make, for it is a good mixed farming district. Its agricultural society is struggling along and when we know its president is R. H. Speers and that he is assisted by such vice-presidents as C. M. Daunais, and D. M. Findlayson, we feel certain that it will be a successful one. The show this year will be held on October 3rd and 4th. J. M. Skelton is the sec.-treas.

Stirling (Saltcoats).

The first meeting in connection with this society was called by the present sec.-treas. and took place on the banks of the lake, when soap and goods boxes were used for chairs and tables. An active canvass of the new settlers was made, the requisite number of members secured and the society incorporated in 1888. At the first regular meeting A. E. Boake, who secured the largest number of members, was appointed president, and Thos. MacNutt sec.-treas. This meeting was held under cover, as the then embryo village of Stirling, now Saltcoats, had passed to the shanty stage. It being too late in 1888 to hold a show, it was deferred till next year, when, notwithstanding the want of accommodation, a most successful exhibition was held and several hundred dollars paid out in prize money. Since that time annual shows have been held, many exhibitors coming as far as thirty-miles with stock and produce.

At one time the interest in the society lagged a little, but, principally through the public spirit of the merchants of Saltcoats and the efforts of the dramatic society, it was revived. The society is now in flourishing circumstances—without a dollar of debt. It owns an exhibition and entertainment hall, 30x60 ft., with stage, drop curtain, scenery, dressing rooms and a good dancing floor, costing over \$1,000; five acres of ground, cattle corral, etc., and has a large pecuniary interest in the creamery, which it has assisted in various



J. M. Skelton,
Sec.-Treas Battle River Agric. Society.

ways. The last show in 1898 was a most successful one, although postponed twice on account of the plebiscite vote, and again because of a severe snow storm.

There is some talk of an amalgamation with Yorkton, so that exhibitions on a more extensive scale may be held, as the Agricultural Ordinance now encourages combinations for this purpose. The present officers are as follows: Hon. pres., W. Eakins, M.L.A.; pres., E. Kensington; vice-pres., G. R. Goodday; 2nd vice-pres., D. McKillop; sec.-treas., Thos. MacNutt.

The Round-Up.

The labors of the spring round-up outfits, now nearing completion, have brought to light a most satisfactory condition of affairs. The calf drop is an unusually heavy one, and this fact is generally attributed to the importation of pure-bred stock, and to better management than has prevailed in the past. Probably, however, the most important factor, to which this satisfactory state of affairs may be traced, is the fact that some time ago, at the instance of the Western Stock Growers' Association, the Territorial government made the provisions of the Bull Ordinance operative throughout the entire range country; in other words, no bull over nine months old is permitted to be at large during the months of April, May and June. This naturally resulted in calves being spared the rigors of the early spring. The result has proven the wisdom of giving to this, the leading industry of this section, the added care and attention it has received. Not only is the calf crop numerically larger than usual; but, excepting those animals affected with mange, the cattle are found to be in excellent condition.

Another fact revealed by the round-up is that the disease is fully as general as the people had been led to believe. It is estimated that there will be at least 1,500 cattle taken to the dipping station for treatment. By Monday of this week 200 head had been got together. There are still many old and experienced stockmen who maintain that not nearly all diseased cattle are affected with the mange. There were very many cases reported where appearances indicated mange during the winter; but in which all signs resembling that disease have now disappeared, the hair having grown again and the animals being sound in every respect. Mr. Andrews, Crane Lake, is one of the several who have remarked this. This gentleman further states that for the past two winters this mangy appearance has been noticed upon a very small number of cattle; the remainder of the herd was not affected; in summer the symptoms disappeared and were not seen the following winter upon the same beasts. Many still declare that cases such as the above are not mange, but are at a loss to discover what the ailment is.—Macleod Gazette.

Black leg has been quite prevalent in the district round Agricola, Alta., of late, but of 135 vaccinated animals only one has died. Of the unvaccinated several have died.

D. B. McLeod, general agent of the J. I. Case Threshing Machine Co., informs us that the business of the company has increased at least 100 per cent. during the last season, and his statement is verified by a visit of the writer to the company's large warehouse on Notre Dame street east, where an army of men are working night and day shipping out the goods for this fall's threshing.

The Life of a Plant.

A plant receives very little solid food. A farmer remarked the other day that too many people expect their cattle to live on wind and water. But a plant does live a good deal, or I should say almost entirely, on air or what it can take out of the air, and on gases of which ground water is the vehicle. If that plant grow from seed its first food is bottled up with it inside that seed. Take a grain of wheat, and, if sound, you will find there a germ that, with proper conditions as to air and water and heat, will burst its shell and begin to form one shoot to go upward and another to go down. The same influence that starts the germ into life action starts a chemical process by which the starch of the grain is gradually turned into sugar and the gluten into easily soluble compounds. On this soluble chemical food, with the help of the air which penetrates into the soil from above, the plant lives and grows till it has thrown up its seed leaves, a couple of which we find on all embryo plants. At this stage a new process of nutrition is started. The vital force of the baby plant is very much conditioned on the quality of the parent seed, and its environment in the form of warmth and moisture where it lies in the ground. But whenever that colorless stem has been able to throw up its first leaves, the action of the light colors them green, and at that stage they are able to do their part in the digestion of the food the parent stem has been able to draw out of its original store till that is exhausted, and also out of the soil in which it is embedded, which is done by means of the roots it has been forming underneath. Nearly all the food it takes out of the soil is in liquid form, a mixture of gas and water. From the air it draws carbon by its leaves, and though the percentage of carbon in common air is very insignificant, yet it suffices to build up the frame of the tallest and heaviest trees on the earth's surface. The food (carbon dioxide) taken in through the leaves is first turned into starch, then into sugar, by means of which the plant is built up. The soil contributes its share of liquid chemical food, and as this rises in the form of sap, the leaves throw off a large portion of that sap in the form of vapor and this drain on the soil moisture must be supplied in some way, if the plant is to live and thrive.

Some amount of mineral matter is taken up from the soil and goes to form part of the plant, but the greater part of the food taken up by the roots is chemical, and is collected along with the sap by the fine root-hairs formed at the extremities of all the small roots. Plant food in the shape of manures has all to be dissolved into its chemical constituents. Nitrogen, phosphoric acid, potash, silica are the names by which the principal constituents of the plant are known and by the subtle chemistry of nature, leaf, stem, flower and fruit are gradually evolved. The plant may be an annual, perfecting its seed and perishing the first season, or a biennial, growing one year and perfecting its seed the next. Or it may be perennial in the form of herb or tree, but the essential methods of its life and nutrition are very much the same, intelligible up to a certain point, beyond that a mystery and a miracle.

The proportion of the different varieties of food constituents required for the production of an average crop varies with the nature of the plants to be fed. To produce an average crop of wheat, say 25 bushels, about 100 lbs. of silica is needed per acre. About 14 lbs. of silica is enough for the same area of beans or turnips. But in the grain itself of that wheat crop there is less than one pound of silica in 1,500, while in the, say 3,000 lbs., straw that is needed to support that grain there is about 100 lbs. of silica. Where there is a deficiency of silica in the soil or a more limited capacity in the variety sown to take up silica, the straw will

be weak and soft and easily broken down by stress of weather or the weight of the head. But while in grain most of the silica is needed to strengthen the straw, most of the silica a root crop takes up goes into the bulb; the stems above ground have very little silica in their composition. The brightness of straw is due to the amount of silica in its composition, and some of our wild grasses have a very great proportion of silica in their make-up.

Sometimes we hear teachers divide plant foods into organic and inorganic. The organic is decaying vegetable matter, usually called "humus," which the root system takes up in the form of gases dissolved in water. The inorganic or mineral matters are sulphur, phosphorus, potash, lime, iron and magnesium. If plants are burnt the sulphur is burnt too, but the other substances remain as ash. All of them are taken up in chemical combinations. In fact the subtle chemistry of Nature goes far deeper than the most skilled analyst can trace her. Chemistry may find in soils food which the plant by itself can take little or no good out of. The work of the farmer is by skilled manuring and cultivation to assist Nature in cooking the food lying comparatively useless in the soil. High authorities tell us that perhaps not more than one part in a hundred of the plant food in fertile soil is available at one time or for one crop. The crops themselves are not always a safe test of the productive powers of any soil. There may be a superabundance of some kinds of food and a deficiency of other kinds, and for want of sufficient moisture to carry it up into the plant, growth will be poor even when there is plenty of available food. Or there may be an excess of moisture filling the soil to such an extent that air cannot reach the roots of the plants, and though some plants are so constituted that they can live in water and from it extract the oxygen they need, others stand still or retrograde till by drainage or evaporation the land they live on is relieved of the excess water it holds. In a year like this we see low patches of grain "drowned out" just because the grain cannot live on the badly balanced conditions of life those wet spots supply.

To those who want to know the inside track of farming science, there can be no more interesting study than that we have here tried to outline. The book of nature lies wide open, and the books that will help us to understand it are now cheap and accessible to every would-be student. Will you be one of them?

Moose Jaw Fair.

The 14th annual show of this society was held on August 9th. Its success was considerably marred by a very heavy rain storm the night before, which kept back many intending competitors. The attendance of spectators was quite large.

The competition in the horse classes was rather uneven, but in some cases it was pretty keen. In heavy draft stallions J. W. Smith was the only competitor, with a very useful Clydesdale, Lintibert King. In driving stallions, three entries. Mr. Smith again scored with Arcade Dr. Wilkes, S. McWilliams a good second.

Cattle were a better all round lot than the horses, though all shown off the grass. Quite a number of registered Shorthorns were present. In bull any age, F. H. Martin got first, J. Battell second. F. W. Green showed a very smooth two-year-old heifer, getting first on aged cow and heifer. Messrs. Green and Battell had most of the prizes for both pure and graded stock. Mr. Battell had two good roomy cows, each with calf at foot.

Alex. Zess, with a Jersey bull calf and two pigs, had no competition.

The poultry exhibit was poor. D. Copland had a good pair of turkeys. The dairy exhibit was good and neatly made up. In grain this year's crop was shown green, of great growth, but that of last year was a very limited exhibit. The exhibit of ladies' work in the town hall was good, both in quantity and quality. A noteworthy exhibit here was that of Messrs. Simpson & Co., for building fixtures of home manufacture.

Messrs. Jno. Inglis and Walter Hayes judged the horses: Hugh Ferguson and Wm. Moffat, the cattle: H. U. Rorison and H. C. Gilmour, the grain, roots, vegetables and manufactures: E. H. Moorhouse, the dairy products, and Mesdames B. Carey and C. D. Fisher, the ladies' work, bread, pastry and fruits.

In the evening the directors and other friends had supper at the Windsor Hotel and discussed the business of the society. There was a feeling that the pressure of haying and other field work made this not the best season for holding a show, but perhaps the weather more than anything else is accountable for the shortage at this particular show.

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Mention this Paper.



Grain Stacking.

By Thisledown.

The past season's unfortunate experience, with grain damaged by rain, through improper stacking, has made the problem how to stack a very live question with many. After the loss suffered in former years from the same cause, and the amount of ink that has been expended in telling how to stack, it is hard to account for the large amount of damage incurred, except on the score of carelessness. But carelessness does not account for it all, especially with beginners. The trouble with laying down rules for stack building is that hard and fast rules for building a stack from top to bottom can hardly be made to apply, on account of the variation in sheaves in different crops and kinds of grain. However, I will try to give a few hints from my own experience, and also attempt to deal with what in my own early experience, and that of other beginners, I have found to be the principal difficulties and how to avoid them.

A very common rule laid down is, to overlap sheaves to the band. As sheaves vary in bulk of head in proportion to bulk below the band, this rule produces all sorts of results. The principal points to be kept in view are to have the stack so that grain will not be damaged by drawing moisture from the ground underneath, nor by the rain that falls upon it. The first danger is easily avoided by building in a dry situation, and keeping the foundation course of sheaves well up on their butts; so that even when the stack is completed and settled, the heads of the sheaves will not come in contact with the ground.

The second danger of taking wet from above can be averted by constructing the last two rows of the body of the stack, and the whole of the roof, with a downward inclination to the butts of the sheaves. All that is necessary in the body of the stack is to see that the sheaves are at least on the level, or with a slight downward droop to the butts of the outside sheaves. The builder will overlap much or little, as may seem necessary to keep the stack in this shape. I have seen a good many stacks spoiled by unnecessary zeal in trying to keep a high heart in the butt of the stack. The steep slope causes the sheaves to slip and the builder in his efforts to keep the stack together allows it to get flattened down in the heart. As this most commonly occurs when the body of the stack is pretty well up, the result is that the roof of the stack is badly built.

By keeping only a moderate heart in the body of the stack the wall can be raised in good shape, so that the amateur stacker can carefully and methodically make his preparations for putting a proper roof on the stack.

When the wall of the stack is nearly high enough, the next thing to do is to raise the heart to get the necessary slope on the sheaves of the last two rounds of the walls, so that no soakage, even from a well-built head, will penetrate the body of the stack below. To do this several rows of hearting will be necessary, according to the width of the stack. The first course of hearting should not overlap, the butts being placed only against the heads. The second course of hearting should be

begun by partly overlapping the outside row of the stack. The amount to overlap, for reasons already stated, cannot be laid down here, but experience will soon enable one to determine. Put in as many courses as may be necessary to bring the stack to a proper incline, always beginning the next course nearer the middle of the stack than the preceding one, placing the heads of the sheaves on the butts of the sheaves in the course immediately underneath.

The heart now being raised to a proper pitch, build two more courses on the whole body of the stack, overlapping the first course as much as may be necessary to keep the required droop on the sheaves. The last two courses on the wall will be found to be the only difficult part of the operation of building a stack by this plan. In building a high heart all the way up in the butt of a stack, the sheaves must be overlapped considerably to keep the heart high. This makes a rough surface to build on and slips easily, at least with the amateur. The sides of the stack not being readily visible to the stacker, he is all the more liable to let his stack get out of shape. This trouble is largely avoided by only having the last two rounds drooped as a guarantee against soakage from the roof.

The stack being ready for the roof, the plan of building must change. The sides of the stack being no longer perpendicular, but sloping inwards, the rules applied in the butt, if applied here, would produce different results. In hearting the last round of the body of the stack and throughout the building of the head, the rule should be not to overlap, but merely to place butts to heads. The narrowing of the head of the stack brings the heads of the sheaves always on top of the butts of the inner row of sheaves in the preceding and lower tier. This accomplishes the same end in keeping up the heart that overlapping does in the body of the stack and makes a smooth surface to build on, no rough sheaf butts sticking above the level to cause slipping. Here is where the uninitiated find their chief difficulty, as they try to carry out the rule of overlapping in the roof as well as in the body of the stack. The binding now being overlapped and the next outside row above being drawn in to make the slope of the roof, the binding row as a consequence comes so far underneath the outside row above it, that the outside row is partially propped up; the getting of the droop on the outer row of sheaves is not accomplished, and the difficulty of holding the stack together in good shape is increased. Indeed, I have seen completed stacks where the butts of the outer binding row of sheaves could be plainly seen. In finishing up the head care should be taken to keep the pitch on the sheaves right to the finish, and top off as smoothly as possible to avoid leaving a rough surface for the wind to grip on. If the stack is allowed to get flat on top it means not only some spoiled sheaves, but the wind will more readily break it up. A strong wind blowing into the butts of sheaves lying flat will rip the top off the stack. But when they are kept well up on their butts and smoothly topped out the wind fails to secure a purchase.

Notice of incorporation of the Elgin Elevator Co. has been given.

The Ogilvie Milling Co. has now under construction a boiler of 1,000 horse power which when in position will enable them to increase considerably the grinding power of their Winnipeg mill. It is further reported that the same company may build another mill and elevator at Fort William at an early date.

Spraying Wild Mustard.

The manager of the college farm at Aspatria, England, has been trying a two acre field badly infested with wild mustard (charlock it is called there) and reports himself well pleased with the result. The leaves of the weed had become small and the stem toughish, the test was, therefore, a hard one. The spraying was done on June 14th, and on inspection two days later this was the state of matters:

Plot 1 (sprayed with 2 per cent. solution copper sulphate)—A large proportion of the charlock was dying off; oats slightly affected by the spraying.

Plot 2 (sprayed with 2½ per cent. sol. copper sulphate, 60 gallons per acre)—Charlock almost entirely destroyed; oats affected by the spraying.

Plot 3 (sprayed with 8 per cent. sol. iron sulphate, 60 to 70 gallons per acre)—Charlock turned black and appeared to be entirely done for; oats only slightly affected by the spraying.

Two days afterwards heavy showers fell. A month afterwards it was found that 95 per cent. of the mustard was dead and the grain apparently little harmed. It takes 70 gallons of the solution per acre for a very dirty field. Sulphate of copper is the scientific name for bluestone. Sulphate of iron is much cheaper, but it takes more of it to do the job.

Results of Frequent Tillage.

Among the results of experiments made at the Michigan Experiment Station on tillage of corn are these, as taken from Bulletin No. 164:—

Frequent cultivation of corn keeps the land moist and increases the total amount of water available to the crop.

Such cultivation concentrates the moisture near the surface, where it is more readily secured by the plant.

Plots cultivated frequently yielded 86.6 per cent. more dry matter than uncultivated plots, and 17.1 per cent. more dry matter than plots cultivated infrequently.

Uncultivated corn not only gave a very small yield but the corn, as cut up for silage, was inferior in quality.

Plots cultivated three inches deep yielded on the average 8.3 per cent. more than plots cultivated five inches deep.

Frequent cultivation to a depth of three inches gave the best results in these experiments and is recommended for general practice.

An important saving in soil moisture was effected by early spring plowing. Early plowing with thorough preparation of the plowed land will do much to prevent the loss of soil moisture.

There are fifty young women taking a course at the Minnesota College of Agriculture. New dormitories have been built to accommodate the women students, and new instructors in special departments have been provided. Most of these women are taking the three years' course, which includes the study of field crops and seeds, farm economics, horticulture, forestry, veterinary medicine, etc.

Prairie dogs are becoming such a nuisance in Northern Nebraska that the State College is studying means of destroying them. It is proposed to catch a few of them, inoculate them with the germs of an infectious disease, so that when turned loose among their companions they may convey the disease to them and thus exterminate the whole village. Progress along this line will be watched with interest.

Stacking Grain.

Last season there was considerable damage done to grain of all kinds occasioned by careless stacking. As harvest is now on, it will not be long before stacking will be in order, therefore we give space in this issue to some of the letters that have reached us on this subject.

THE DOUBLE SETT.

By a Thresher.

As a thresher I must say that last fall I found many stacks very wet and am on account of poor stacking and it seems too bad not to pay particular attention in stacking after carefully cultivating and seeding the land, cutting and stooking the crop. Every farmer, no doubt, is anxious to get his grain into stacks, but would it not be better to take a day or two longer and stack it carefully, so that the rains would not affect the grain in the stacks? I threshed some stacks last fall that were not in the least damaged by wet, and if care was taken they all might have been that way.

There is another item, that has been, as I suppose, overlooked by the farmers, and that is building four stacks in one set, to make less moving with the threshing machines. It must be admitted, however, that there is great danger from fire, both blowing from the engine and from sparks, as a four stack set brings the engine about 30 feet closer to the two stacks that the machine is not working at. If fire starts on them they are totally destroyed, besides the unthreshed portion of stacks that the machine is working at. I have had fire in four instances where there were four stack sets, and I paid for the biggest portion of grain destroyed, making satisfactory settlement with the farmers. Still it is very unsatisfactory to the farmers, and I am sure they do not like to see a thresher work for three to five days for them and then move off the farm and have no collections to make from them. I have explained this matter to all of my customers and I strike very few farmers now that make four stacks or, as I term them, a double set. It must be admitted that the danger is very great. A few years ago it was useless to try and get insurance on separators during the threshing season, but now a company, the "Wawanesa Mutual Insurance Company," insures them, which is a great benefit to threshers, even though the premium is higher than on any other insurance I know of, still not any too high for the risk there is on them.

I might add that I would not be far out when saying that nine out of every ten machines burned are burned in these double sets, as it is almost impossible to get a machine removed in time, especially if the straw is being stacked. I trust you can publish this in your valuable paper before the harvest starts, as there is no way to bring this more fully before the farmers of Manitoba and the Northwest Territories than through your paper.

STACKING SHEAVES.

By a Pioneer—Whitewood, Assa.

Stacks, like other things, cannot always be judged by their looks; but if good looks can be combined with other good qualities, so much the better. In this country, where stacking is one of the most important features of farm work, it needs every attention. When starting to build stacks, choose a dry piece of ground—a knoll if possible—so that they will not get wet from the bottom. Have it level between the stacks, so that the threshing

machine will stand level, and in that way trouble from the machine throwing grain over is very often avoided. Stacking should be done as soon as the straw is thoroughly dry and crisp, and the grain hard and brittle in the heads, so that it will break when bitten rather than flatten out. If the grain was quite dry and hard previously, I have not found any trouble from stacking when the dew was on, but find it an advantage in keeping the sheaves from slipping when putting the top on a stack. When the grain is in proper condition stacking should be carried on with all possible speed. Bear in mind it takes as long to build a bad stack as a good one, therefore build right.

In commencing the stacks, keep the tops of the bottom sheaves well up, that they may not get damp with the moisture from the ground. Place the stacks so that there will be space of about ten feet between them, so that the separator will have ample room to come between the stacks and not pull out a quantity of the sheaves, and thus cause waste. Good sized stacks should be built so that no more time than is necessary will be lost in moving the thresher from place to place about the farm. Use a fork to build with, never standing on or pressing down the outside row. Have the man who is pitching off the load turn all the sheaves right end to you, and pitch the sheaves close enough so that you can easily reach them with your fork; tramp on each sheaf as it is laid, except those of the outside rows. Place the second row so that they will nearly catch the tops of the outside ones, the third nearly to the band of the second, and so on till the centre is reached. By doing this the centre will always be kept higher than the outside, so that the settling of the stack will cause the outside ones to droop and thus keep the water from running into the stack. After a few rows have been built, put a slight swell on your stack by putting the outside rows out a little, or rather build them straight above the row below them, and they will slip out enough to make the swell, if the grain is dry.

As the stack gets higher lay the sheaves out on the inside rows built before them enough to raise the centre of the stack two or three feet, or as much as you can without the sheaves in the outside rows slipping and get the outside rows as near level as possible before you commence to draw in your stack for the top. In topping the stack, build the outside row of sheaves in eight or ten inches further than the outside row below them, and if the ends of the sheaves are bent any, as they generally are, turn the sheaf so that the bent end slants down, and in that way they will run the water out.

The last ten or twelve sheaves should be set almost on end with a small picket in the centre and a hay rope around the end to keep them safe against the wind. Stacks built in this way will not be spoiled by the wet getting in, and the farmer will not have any musty wheat or oats to give his horses the colic.

The man who owns a farm and can't make a living for self and family and something to put aside, ought to attend an agricultural school or quit agriculture entirely and join some of the professions not requiring so much brains and energy.

The Burlington Railroad Co. six years ago employed a dozen or more practical farmers in Nebraska to test the Campbell method of soil culture, using the sub-surface packer. The results obtained by these men have been very successful and now a large number of farmers have adopted this method with advantage to themselves.

Repairing Pumps.

By H. Cater, Brandon, Man.

I would like to say a few words to the many readers of The Nor'-West Farmer on the subject of repairing pumps. Too many farmers look upon a pump as an implement taking care of itself, while others leave the care of it until there is nothing else to do and on a well managed farm that does not occur very often. The result is that very suddenly, frequently on a cold winter day, the pump gives out. Then we wish we had looked after it sooner. Others again neglect the pump and it is soon frozen up and very often they are not able to use it any more that winter.

Now this neglect to look after the pump before it gives out is a great mistake, as there is nothing so annoying as a pump that will not work. A pump is not like the majority of farm implements—only in use a short time then put away. It is always in use, every day in the year, and sometimes twenty times a day. Hence it is very important that it should be kept in good repair. Now is the time to overhaul your pumps. If left until winter comes the work cannot be done so well, because everything is likely to be covered with ice and the joints will not go together properly. Then, too, it takes more time, for when a man has to work with his coat and mitts on he cannot get along as fast as without them, consequently the cost of repairing will be greater. Now is the best time to make all repairs, as the pump can be handled readily and quickly and the job will cost less money than if done in the winter time. Put your pumps in repair before the winter sets in.

Harvesting at Guelph.

The grain crop on the Agricultural College farm at Guelph has just been cut and stored. The fall wheat on the farm was injured by last winter's exceptional severity, but had barley sown over it in the spring, which yielded a capital crop of feed grain. A 63-acre field of oats is estimated to give 80 bus. to the acre. Corn and roots are also showing in splendid condition, and altogether the farm is a conclusive demonstration of the practical wisdom of the management of Mr. Wm. Rennie during the six years that he has had control of this farm. He took hold of it when it was not in the best shape; now it is a model farm on every inch of the 345 acres under cultivation. One of Mr. Rennie's ideas was to introduce and demonstrate the system of shallow cultivation and keeping the vegetable matter on the surface; also a four years' rotation. The first two years grass was grown, including hay and pasture; the third, corn, roots and peas, and the fourth, grain and seeding down. By following this system all cross-fencing is done away with. The farm gives an ample evidence that Mr. Rennie's method is all right, and the farmers of the country are indebted to him for the object lessons in farming he has set before them.

It is reported by the local paper that the farmers' elevator at Cypress River will this season be run on a different plan from that practised last year. A number of large firms are expected to place buyers.

Some strongly advise against the use of four-horse evencers, and the hitching of four horses abreast to plow or harvester, and much prefer hitching one pair ahead of the other. They claim it is better for the horses and secures steadier motion.

The Best Method of Fallowing.

That final plowing match at Brandon, as was pointed out in our report of the meeting, furnished proof that the frequent practice of allowing weeds to grow almost to maturity before starting to summerfallow, is a serious mistake in any year, and especially in a rather dry one. Since that time we have seen scores of fields in which the weeds were thick and full grown before they were attacked by the plow. Professor Fletcher is only one of many skilled botanists who say that no manurial value worth speaking of is gained from growing and burying those weeds in the land. And when we keep in mind that the bulk of the moisture in the land itself has been pumped out of it to promote the growth of those weeds, and perhaps very little more rain will fall, we find that as a matter of fact the very worst foe to a proper seed bed for next year's wheat crop is this practice of letting weeds grow on our stubbles. After a hard push in a late seed time such as the past, it may be best not to push the teams to more than a good half day's work to start with, but we claim it should be a settled principle that the shorter time those weeds grow before they are plowed under the better will it be for the next crop that follows them.

But suppose they have got the start and are there in rank abundance, the plan of burying them by means of a ball and chain, or more frequently, the chain without the ball, is another blunder. The idea at the foundation of all our plowing match rules is that there is no better method possible than to try and bury them. The way the best men in the province keep going back to bury them with hands and feet at the matches shows that the art of burying those weeds by ordinary plowing is not yet far advanced. If buckwheat is the main weed the best attempts to bury it by the plow are decided failures. It will defeat the best attempts to bury it and if the weather is at all dry it will ripen its seeds both above and below ground with unfailing certainty. Every district has special weed pests that must be specially dealt with. Stink weed will be ripe almost by the end of May. Rag weed, another familiar Red River pest is fully six weeks later before it gets dangerous, and the point to be kept in mind is that the lowest seed pods on a stalk will be well filled before the top ones are in bloom.

Thirteen years ago A. Dryden, of St. Agathe, writing in The Nor'-West Farmer, alleged that it was almost impossible to bury well-grown weeds by means of a chain, and pointed to the mower as the first implement to use in fallowing. He said he used a harrow to cover the points of any weeds left sticking out, but our observation is that the harrow draws such tops to the surface and does more harm than good. When taken early enough the harrow has always been recommended by this paper for use immediately after the plow, because in their early stage there is less to fear from all ordinary weeds, and a round or two of the harrow helps much to bring the land into a mould that will save all the moisture that is in it. Repeated harrowing, especially at the proper time after rain has fallen, will germinate more foul seeds and kill those already started, besides bringing the land into an ideal condition as a seed bed for wheat next spring.

We think with Mr. Dryden that for all ordinary occasions weed crops, at the stage it showed on the Experimental Farm the day of the match, should have been mown. And after being plowed with all the weeds growing, we think it should have been rolled with a heavily loaded roller, and so left for a few days. It was

harrowed almost the next day, and that was sure to bring to the surface many weeds that would otherwise have stayed under. There are thousands of acres this year and every year plowed after having grown a rank crop of weeds, some of them dangerously far advanced towards ripeness, and the points we seek to make out are that if possible they should be caught at a much earlier stage. If not they should be mown and perhaps raked and burnt. If not so cut, it is better policy to roll heavily than to harrow, though that plan now so familiar may be best to start with, especially when a heavy roller is not available.

Successful Farming.

D.M. McPherson, M.P.P., the well-known "cheese king" of the east, has published his views on the points at issue between Dr. Saunders and Professor Robertson on farming experiments. Mr. McPherson has some degree of fitness for the authoritative discussion of such questions, for he has farmed with as much apparent success as has attended his other ventures. His conclusion is that both are right up to a certain point and beyond that both are wrong. "The whole truth or basic principles," says Mr. McPherson, "which underlie progressive farming with an eye to a maximum of sustained profit is a combination of accurate science with correct practice," or, to use his own words, "of scientific principles, backed up by natural law, practically applied." This combination of "science with practice," as the Royal Agricultural Society of England phrases it, is so intricate that if one part is omitted or overlooked the whole effect is more or less deranged, often to an extent that converts an intended benefit to an actual injury.

Vigorous, well-developed seed does not necessarily produce a maximum profit, even when a maximum crop is obtained. The seed is only one of a large number of factors that combine to produce the desired result. It is not so much a large product of this or that crop for a year or two that should be aimed at. The thing to be aimed at is to get the largest profit with the least relative cost, and without reducing the productive value of the soil from which those crops were taken. So far these are more of the nature of generalizations than a statement of new principles. Mr. McPherson goes on to illustrate from his own experience the principles he propounds:—

"My experience, obtained from personal practice, has established the fact—and I here desire to state it—that it is not possible for any farmer in any ordinary pursuit to maintain the fertility of his farm by the most careful conservation of plant food within himself, either by the saving of manures, sowing of clover, good cultivation, etc., either separately or all combined.

A farmer must sell farm products in large amounts to realize sufficient cash to pay his expenses, and have a balance left to pay a profit on capital invested, and in the selling of such products he must necessarily part with a corresponding amount of soil fertility, the ingredients of which are potash, phosphoric acid, lime, nitrogen, etc., etc. No amount of care in the saving of straw, chaff, roots, animal manures (liquid and solid), manure drainage, or gases arising from fermentation, will make up for the loss of these ingredients, in the products usually sold off farms.

"For example, while it is universally admitted that the growing of clover will reclaim nitrogen from the air, yet it is possible that the labor and expenses incurred in the acquiring of sufficient nitrogen in this way would be more than the

same amount could be got for in more direct ways, and it appears to me that nitrogen in sufficient quantities can be obtained at less cost than through clover.

These facts prove conclusively that in order to obtain a maximum profit from farm work and capital invested in farming it does not depend entirely on vigorous seed, soil fertility maintained, early seeding, good cultivation, etc., etc., but upon a combination of these along with a proper selection of crop, animal and finished product, which when sold will yield the greatest cash and capital profits per farm, and at the same time prepare an annual condition which will cause these to progress to the greatest extent from year to year, thereby making yearly maximum cash profits and increased value to the land of each farm."

Having demonstrated from his own experience, backed, we may point out, by published balance sheets, his statement of general principles, Mr. McPherson throws out a challenge to both the government officials, the acceptance of which would, we believe, be very interesting to a host of Canadian farmers:—

"Let the Dominion or Provincial Governments, one or either, select three one-hundred acre farms owned by three average Canadian farmers, the owners known for their honesty, integrity and industry, and all three farmers and farms being selected under average conditions, known and proved to be as much alike in all details as is possible to obtain. I propose that Professor Robertson undertake to direct one, Dr. Saunders another and I will undertake to direct the third. The government advancing such means to carry on the three farms as each one reasonably calls for. The contest is to continue for five years, or as long after this period as is found desirable to continue the good or bad work. The director of each farm shall put into execution the theories that each submits to the public at the present time. A careful record of results, financial or others, shall be minutely kept in systematic, business-like form. A careful inventory shall be made out at the start, as well as a balance sheet struck each six months, also a fertility account shall be minutely kept of all debits and credits in such account. All these three farms to be under the supervision of the Minister of Agriculture, and through him a determination made out each year as to the record of results, etc."

There is a perfect plethora of model farms, experiment stations, and tests of infinite variety, but the test projected by Mr. McPherson would, if accepted, fill a void and bridge the gulf between the experimental and practical that can never be done in any other way. And nobody would ever grudge the cost. "Hang the expense."

The Historical Society.

This old established society has recently issued the report of its transactions for 1898. Among the society's recent publications are two well worthy of notice. One is the "Charitable Organizations of Winnipeg," by Mrs. Geo. Bryce. The chief of these are the General Hospital, with its auxiliary societies, and the Children's Home. Of less note are the Women's Christian Union, the Free Kindergarten, the Coffee House Association, Salvation Army and the Aberdeen Association. This latter association collects from all quarters and distributes monthly to outlying settlers between 300 and 400 parcels each month of reading suitable to their tastes and requirements. Another recent and most valuable issue is "Manitoba Birds of Prey and the Small Mammals Destroyed by Them," from the pen of A. E. Atkinson, of Portage la Prairie.

Conservation of Soil Moisture.

(Concluded from June 5th issue.)

In a previous issue three methods of conserving soil moisture were mentioned, viz.: frequent cultivation, summer fallowing, and the Campbell method of soil culture. In this issue what is perhaps the most important of them all will be taken up.

4. Adding Humus.—Gradually farmers in other parts of this continent are waking up to the fact that if they have a good store of humus in the soil they are always sure of a good crop. This is the heart of the methods by which Wm. Rennie, the farm superintendent at the college at Guelph, has brought the farm into such a high state of fertility, that now it may well be called a model farm. An examination of the methods of those farmers on the Portage Plains and elsewhere in the west, who are still growing 30 bushels and more per acre on land that has been cropped for 15 years or more, will show that they have kept up the store of humus in the soil by regularly seeding down a portion of their land to timothy or other grasses, that filled the soil full of vegetable matter, which on its decay would make humus. Right beside these farms others are to be found where no effort was made to preserve, much less restore, the humus, and to-day these lands are yielding only 10-bushel per acre crops.

Humus is partially decayed vegetable matter, it is constantly being used up and is gradually getting less and less in the soil, through continual cultivation. An analysis of the virgin prairie soil shows that from 10 to 20 per cent. of the first foot is vegetable matter and in a few places the percentage of vegetable matter is even higher. About one-third of this vegetable matter has decayed and formed humus. With the breaking up of the virgin sod the increase of vegetable matter ceases and processes of cultivation which then begin hasten the decomposition of the vegetable matter and the rapid dissipation of the humus.

USES OF HUMUS.

Of all the substances in the soil perhaps no one of them performs so many useful offices as that of humus. But of its varied uses we will dwell only upon a few which bear particularly on the subject in hand.

Humus absorbs moisture.—The great power of decaying and decayed vegetable matter to hold moisture is readily recognized when seen in a bog saturated with water; but few carry the thought further and see that if they had a proper amount of this decaying vegetable matter in their soil what a reservoir they would have in which to store water for future crops. Its ability to absorb moisture compared with other kinds of soil is well exemplified in the following table by Schubler, who saturated comparatively dry soils with water, the excess was allowed to drip off, then the increase of weight determined:

	Water absorbed.	Water evaporated in 4 hours.
Quartz sand.	25 p.c.	88.4 p.c.
Lime sand	29 p.c.	75.9 p.c.
Clay soil (60 p.c. clay)	40 p.c.	52.0 p.c.
Loam.	51 p.c.	45.7 p.c.
Heavy clay (80 p.c. clay)	61 p.c.	34.9 p.c.
Garden mould.	89 p.c.	24.3 p.c.
Black humus.	181 p.c.	25.5 p.c.

The point to be impressed from this table is that humus in the soil has the greatest power to absorb moisture, absorbing 181 per cent. of its own weight of water. Hence its value in any soil, and particularly sandy ones. In a sandy soil, besides absorbing moisture, it seems to cement the particles of sand together, making it more compact, while in a clay soil it seems to separate the fine particles

which have too great a tendency to stick together, and thus make the land hard to work.

Humus retains moisture.—If humus simply absorbed moisture it would fail in accomplishing the good desired. A sponge will absorb a large amount of moisture, but it loses it again very readily. It does not retain or hold it. It would be a poor place in which to store moisture. Reference to the second column of the table above shows that when exposed to the sun and wind for four hours some of these soils lost a large amount of moisture, but it will be found that the power to retain is very closely associated with the power to absorb. In this character humus shows up to great advantage. It retains moisture, or in other words, its moisture evaporates slowly. All have seen, in one way or another, how long a vegetable soil will retain moisture. Then increase the amount of it in the soil so that it will retain more water.

Humus holds plant food.—Scientists tell us that the three most important plant foods are nitrogen, phosphoric acid and potash. These are held in the soil by a variety of compounds, among them humus. Scientists are now becoming of the opinion that much of the plant food in the soil readily available for plants is held by the humus and that the humus as it increases in the soil, unites with potash and phosphoric acid and other important plant foods to form new compounds more suitable for feeding growing plants.

The North Dakota Experiment Station has been determining the amount of nitrogen and phosphoric acid held by humus in the soils of the state. From 46 to 80 per cent. of the total nitrogen in the soil was held in the humus, the average being 61 per cent. Humus is thus the great storehouse of the most valuable food required by plants. The average amount of phosphoric acid held by humus was 41 per cent., the range being from 10 to 91 per cent. It also holds a large amount of potash and other mineral matter. It will thus be seen that the amount of humus in the soil is very intimately connected with its fertility.

Humus is the life of the soil.—So intimate is this connection with fertility that humus may well be looked upon as the life of the soil, and from this we can also see how important it is to keep a good supply of it in the soil. Continuous wheat-growing is very destructive of humus and all vegetable matter in the soil. Not because wheat uses so much of it, but because the conditions under which wheat is grown favor a rapid decay of vegetable matter. The humus is rapidly broken up, some of the products escape into the air as gases, others are washed out of the soil and others unite with other substances in the soil, forming new compounds less readily available as plant food. So great has been this destruction or waste of nitrogen, in particular, that the North Dakota station estimate that in that state for every pound of nitrogen used in producing crops five have been lost, some of it being burned out with the burning of the stubble. The phosphates are not so easily lost as the nitrates, but they are converted into less soluble compounds.

The question of raising large crops and having a large supply of moisture in the soil depends more upon getting the soil full of vegetable matter than upon anything else. The lost humus of the soil can be restored by plowing down green crops, but the best way is to get the land into grass. Could clover be grown successfully the question would soon be solved, because nitrogen could be added then, too. In the absence of it, however, there is nothing equal to Brome grass for filling the soil full of roots and thus making a large amount of vegetable matter. Our system of cropping year after year without

seeding to grass is wrong for sooner or later the store of humus will become exhausted and as it becomes exhausted our crops decrease in yield. The wise man, then, is he who seeds down a portion of his land every year so that the store of humus may be kept up to the maximum and his crop yield as well. All land should lie in grass at least one year in five. In such a case a smaller area would give as many bushels and the grass land give pasture and hay for stock raising, which could thus be profitably combined with wheat growing and the land also enriched by the manure of the stock.

Fall Fairs.

Yorkton.—Sept. 21.
Saskatoon.—Sept. 26 and 27.
Alameda.—Sept. 27.
Esterhazy.—Sept. 27.
Moosomin.—Sept. 27.
Calgary.—Sept. 27 and 28.
Toronto, Ont.—Aug. 28-Sept. 9.
London, Ont.—Sept. 7-16.
Ottawa, Ont.—Sept. 11-23.
Morden.—Sept. 27 and 28.
Lorne (Swan Lake).—Sept. 28.
Cannington Manor.—Sept. 29.
Wetaskiwin.—Sept. 29.
Lorne, Sask.—Oct. 2 and 3.
Battleford.—Oct. 3 and 4.
Oak Lake.—Oct. 4.
Baldur.—Oct. 5.
Elkhorn.—Oct. 5.
Wolsley.—Oct. 10.

It would be an advantage to all parties concerned if the secretaries of Agricultural Societies would send us the dates of their show. Changes are sometimes made from the dates first appointed without proper notice being given which leads to annoyances to intending visitors and competitors.

Wood ashes and raw bone meal are good to keep the lawn looking green.

A short time ago, while a well-boring machine was at work on a farm near Culross, a new station 40 miles southwest of Winnipeg, on the Glenboro branch, and when 82 feet had been bored, a sudden rush of gas blew the apparatus out of the bore, nearly wrecking the plant and injuring the attendants. No serious damage was done, but all were well scared. Immediately after the explosion the well filled to within 20 feet of the surface with water.

Claus M. Park, of Douglas Co., Nebraska, has been conducting some interesting experiments with potatoes. The Country Gentleman has the following to say of these experiments:—"While gathering potatoes in 1896 he came across a hill in which were seven fine specimens. He determined to ascertain how many potatoes could be produced from these seven tubers. They were placed in a hot-bed the following spring, and the yield was five pecks. In the spring of 1898, three of the five pecks were planted, and the yield was 18 bushels. The year was not a good one for potatoes. This season 14 bushels of this yield were planted, covering over an acre, and the indications are that the yield will exceed 1,000 bushels. Mr. Park says he cannot carry the experiment further because he has not the ground. He thinks this demonstrates the futility of the argument frequently made that potatoes raised continually on the same land from the same seed, will not flourish like tubers raised on other lands remote from the point of seeding. The land used by Mr. Park was ordinary Nebraska soil of no particular richness, and he did not use any fertilizer."



A Domestic Dilemma.

By I. G. M., Winnipeg.

Did you ever know a time, good housekeepers, when the house seemed to be bare of everything in the eatable line?

I had just returned from an inspection of the conestibles in the cellar when I encountered Mabel returning with a rueful face from an inspection of the pantry.

"Say!" she exclaimed, "if this snow doesn't stop soon we'll be starved."

We lived five miles from town and our nearest neighbors, a mile away, from whom we borrowed when we ran short, had gone a-visiting—it had been snowing steadily for three days and blowing a gale for four more, and we could get no supplies, hence the depleted state of the larder.

"We'll have to go to bed, Mabe, and stay there till it clears up—play it's night time, and we don't need meals."

Just then my brother Henry rushed in, almost upsetting us in his haste.

"Girls, hurry up and get supper," he panted, "all the pipes at the factory are burst and the men going to fix 'em can't get any further, so they'll have to stay here."

Mabel and I gazed at him in horror. "Why, they just can't," I burst out, "there's nothing for them to eat."

"All O.K.," he cheerfully rejoined, "hurry and get nothing warmed then," and he departed, cheerfully whistling "The British Grenadiers."

"What'll we do?" "I'll tell you one thing," said Mabel, "there is quite a bit of buckwheat flour—we might make pancakes."

"What about syrup?" said I. "Make it out of brown sugar, with a dash of vanilla flavoring; we can make it while the pancakes are frying."

"Good for you, dear—is there any meat?" "Only a wee speck, not nearly enough to go around." "Any potatoes?" "A few, but not enough to go around when boiled." "Any bread?" "Enough for ourselves, but not with those men extra."

"Well, I'll tell you what," said I, "you set the table and get your pancakes and syrup, and I'll make some biscuit and see what I can do about the rest."

I popped my biscuits in the oven and looked at the meat. It was the very last of the roast and would not be nearly enough sliced cold. A bright idea came to me, and hastily peeling the potatoes I sliced them thinly into a deep pan—a layer of potatoes, a layer of the scrappy meat, and a little onion, with a good dash of pepper and salt, then the gravy thinned with a slight dash of water, and I heaved a sigh of relief, knowing by past experience that I would have a tasty hot dish for supper, and moreover, one that one that would go around.

When the men folks came into supper Henry stole a glance at the table and his eyes began to twinkle. "Warmed up nothing is pretty good fare, sis," he said.

The hot hash and fresh biscuits followed by buckwheat pancakes and syrup furnished a supper the men did full justice to.

"But remember"—said Mabel, impressively, "we must never be caught like that again. Let's always keep a few cans of

meat and fish on hand for emergencies"—and we have.

Don't be Over Critical at Home.

"We have careful thoughts for the stranger,

And smiles for the sometime guest;

But oft for our own the bitter tone,

Tho' we love our own the best.

'Twere a cruel fate, were the night too late

To undo the work of the morn."

Don't be critical with those you love—home folks like praise as well as other people—don't fail to see the good qualities. They may have faults, but they have good points, too. Don't begin the day finding fault and rise with a feeling of irritability toward everyone, and come to the breakfast table with a frown. Why should you go out and praise your neighbor's breakfast; be enthusiastic about the flaky white rolls, the delightful flannel cakes, when you have eaten them at home just as nice, and only said "they might have been brought in hotter." Your wife or your mother has made just as good as your neighbor, but you have never told them so.

Don't wait until some one has gone from

til the weary hands are crossed, and the long sleep has come, before you let mother know how you appreciate her, or how beautiful you thought her, or how dear her companionship was to you, and above all how dearly you loved her—tell it all now, to-day—there is no to-morrow. You may be one day too late. Her life may be a hard one—perhaps she is a widow, and has had to bear the burdens of both father and mother—yet she has done it uncomplainingly—has lived to brighten and help her children. Think you she would not be made happier by her children's demonstration of love and approval.

There is no greater mistake than to measure mankind at its worst, and because some are faulty, to declare none are good. We have heroes and heroines in our homes, many of us, and we know it, yet we walk side by side and never tell them how heroically they are bearing their burdens. It might lessen the sacrifice if you should show her your heart—speak, giving praise where it is so richly deserved. "Don't be critical with those you love." —Sarah H. Henton in Mississippi Valley Democrat.

We are making to-morrow's destiny as we train to-day's children.



At Elm Park, on the Banks of the Red River, Winnipeg.

you to tell of their virtues. We are so slow to give praise, we stint our loved ones day after day, walking side by side with them—yet they cannot recount one word of praise from us, when we should have been lavish of it. Why see their faults. You don't go to your friends and find fault with what he or she is doing. Should you not think more of your own—your mother, sister, or wife or husband? You keep your ability to pick faults and discrepancies in your home, while the eye that should look for virtues is closed until you go out. The people of your own blood have the censure, the harsh word and the slur. Don't get in the habit of finding fault! It's so easy to do so, and so hard to undo. It ruins your disposition. Try to see good in people around you, not their disagreeable traits. To criticize, and get in the habit of it, soon makes a cynic of you.

Tupper says "the burdens of life are not so few and far between—then increase not their weight by heaviness of spirit." Yet we do increase the heaviness of spirit if we never give those with whom we live their dues. Surely there is no one who has not some virtues to praise—let us hunt for them, take away the heaviness by creating a brighter atmosphere—approval means so much to some natures. Don't wait un-

"If You Love Me, Tell Me So."

There is a pretty story told concerning the late Dr. Dale, of England. He was travelling in the colonies. Speaking on one occasion of the relation of a pastor to his congregation, and pleading for a freer reciprocity of feeling between them, he said that he often felt inclined to say to his own people, "If you love me, tell me so." The little speech reached England sooner than did the speaker, and when some months later the doctor entered the hall in Birmingham, in which a "welcome home" had been arranged for him, almost the first object that met his eyes was a large scroll across one end of the building: "We love you, and we tell you so."

"If you love me, tell me so"—it is what multitudes are asking. Do not say it is a mean or vulgar desire; it is the cry of parched souls that are thirsting for love and sympathy. And perhaps there are none who utter that cry so often in the silence as our fathers and mothers. Let us love them, and let us learn to tell them so. Cultivate a free and spontaneous expression of your love.

Mr. Barrie tells us that, reticent as the Scot may be outside his own home—in fact, "a house with all the shutters closed

and the door locked"—once at home he is self-revealed in the superlative degree, and the feelings so long dammed up overflow; he has not more to give than his neighbors, but it is bestowed upon a few instead of being distributed among many; he is reputed niggardly, but for family affection at least he pays in gold.

The Kicker.

Kicking in the morning,
Kicking all the day;
Kicking if he's husy,
Kicking at delay.
Thus the chronic kicker
Fills his life with woes,
Frowning, grumpling, wrangling,
Everywhere he goes.

Nothing ever suits him,
Always finding fault;
Every kind of pleasure
He is sure to halt.
Scowling at the children,
Growling at his wife;
Turning peace and comfort
Into constant strife.

Kicking if the weather
Happens to be dry;
Kicking when the rain is
Tumbl'ing from the sky.
Kicking in the summer,
Heat has then no charm;
Kicking in the winter,
Then he'd have it warm.

Kicking every meal-time,
Glaring at the meat;
Often he is saying:
"Nothing fit to eat."
Kicking when he's reading,
Grumpling at the light;
Now and then denouncing
Everyth'g in sight.

Kicking in the morning,
Kicking all the day;
Kicking in the evening,
Kicking should he pray.
Kicking when he's thinking,
Kicking when in bed;
Wonder if he'll keep on
Kicking when he's dead?

Powell's Fight

The change which the introduction of the breech-loading rifle has made in the warfare of the frontier, an innovation which reached the soldiers before it did the Indians, but has since spread to the latter also, is illustrated by the famous engagement known as "Powell's Fight." To this day the engagement, which was but one of scores which have been fought during the last thirty years, is known among the Sioux and Cheyennes as the "Medicine Fight."

The massacre of Fort Phil Kearney, from which no white man returned to tell the tale, gave the Indians great encouragement. Red Cloud and his Sioux continued for months to harass the little garrison which remained in the fort. Encouraged by his success in cutting off the main outside command of the fort, and in preventing a single stick of wood or load of hay from going into the place, he resolved to attack the fortification itself. By the end of July 1867, Red Cloud advanced on the unhappy post at the head of three thousand warriors. Since the massacre the garrison had been supplied by the government with a new weapon, never before seen by the soldiers, and utterly unknown to the Indians. It was the breech-loading rifle, combined long range and deadly accuracy with unprecedented rapidity in firing.

On the 31st July, 1867, Major James Powell left Fort Phil Kearney with fifty-two men to reinforce some laborers who were at work gathering fuel at Piney Island, five miles away. Arrived at the place, Major Powell detailed twelve men to protect the wood choppers, and thirteen more to escort the wagons on their way to the fort. In addition to this, fourteen wagon beds, made of boiler iron, sufficiently heavy to turn a bullet, were

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lifted off the wheels and arranged in a small circle in the middle of the plateau. Between every alternate wagon bed a short interval was left to enlarge the circle. These spaces were filled with chains, logs, grain sacks, and sticks of wood. On the most exposed side of this fortified corral, two other wagons on wheels were placed at a little distance. The workmen in the forest were instructed in case of attack to fly at once to this stronghold, where the soldiers maintained a vigilant watch.

About nine o'clock on the morning of August 2nd, 1867, seven hundred Indians attacked a wagon train loaded with wood, and advanced with such suddenness that the wood choppers were cut off from retreat to the corral and were forced to fly across the mountains to the fort. The Indians at once turned their attention to the curious little redoubt out on the level plateau. Powell ordered his men to lie down in the wagon beds, the sides of which were only two feet high. Over the men were then spread blankets and bedding, completely concealing every one in the redoubt. These consisted of twenty-six soldiers, two officers and four citizens. In the sides of the wagon beds were holes large enough to fire through.

In a few minutes eight hundred Indians on horseback dashed across the plateau, approaching the corral from all sides. A thousand yards away arose a circular range of low hills, on which there were several thousand Indians, men, women and children, under Red Cloud. As the

eight hundred men swept toward the corral, the dark hosts on the hills were spectators. Suddenly the low, black circle on the plateau blazed with fire. Numbers of the Indians fell. As the warriors continued to approach, their ranks were thinned by the continuous firing from the corral, which possessed a continuity, a rapidity, an accuracy never before witnessed by the Sioux. Frightened and broken the warriors quickly checked their horses and fell back, leaving the plain dotted with the corpses of their friends. Red Cloud held a hurried consultation with his chiefs, and the entire host of warriors were ordered to the attack.

Meanwhile, Powell was quickly readjusting his defences. The gun barrels had become overheated from rapid firing. To remedy this, spare guns were placed in each wagon. Some of the men were poor shots. These were detailed to load the guns and pass them forward to the best marksmen, who were to do the firing. Scarcely had these arrangements been made, when twenty-five hundred Indians swarmed down from the hillsides and approached the little black circle in which not a single human being could be seen, and yet, from which, ten minutes before, they had received such a fire as they had never before witnessed. When within five hundred yards of the wagon-beds, the host of warriors gave a mighty shout and started forward at full speed. At the same moment a terrible fire from the corral burst forth.

Heedless of the slain, the Indians



PAINT & PROSPER

Painting and prosperity go together naturally.
Paint is the outward sign of prosperity. Paint saves property.
Increases its value. Twenty dollars worth of paint often adds
two hundred dollars to the market value of a property. All
owners reckon with this strange fact. But many put off painting
too long, or paint without putting enough brains into the
choice of paint, and their property "runs down." The paints
that are made by thoughtful people for thoughtful people are

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rushed on. It seemed that the survivors swarming forward must, in a moment more, leap over the tiny barricade. But the guns of the white men poured forth such a continuous storm of rifle balls that there seemed to be no reloading. The singular corral wore the appearance to the excited Indians of an infernal machine. To them the spot seemed to be inhabited by the Bad God himself. Again and again they charged upon the redoubt, only to be each time broken, discomfited, and driven back. At the end of three hours Red Cloud decided that "the white man had made some medicine guns which would fire all the time without any human agency."

The little band of heroes, looking out through their portholes, saw the retreat of the host of savages to the hills. Not less than three or four hundred of their number were dead upon the field. This was the estimate of the white man. A month or two afterward, a Sioux chief told Colonel Dodge that their actual loss

"A wretched day," echoed Discontent, "you are a most unfortunate girl."

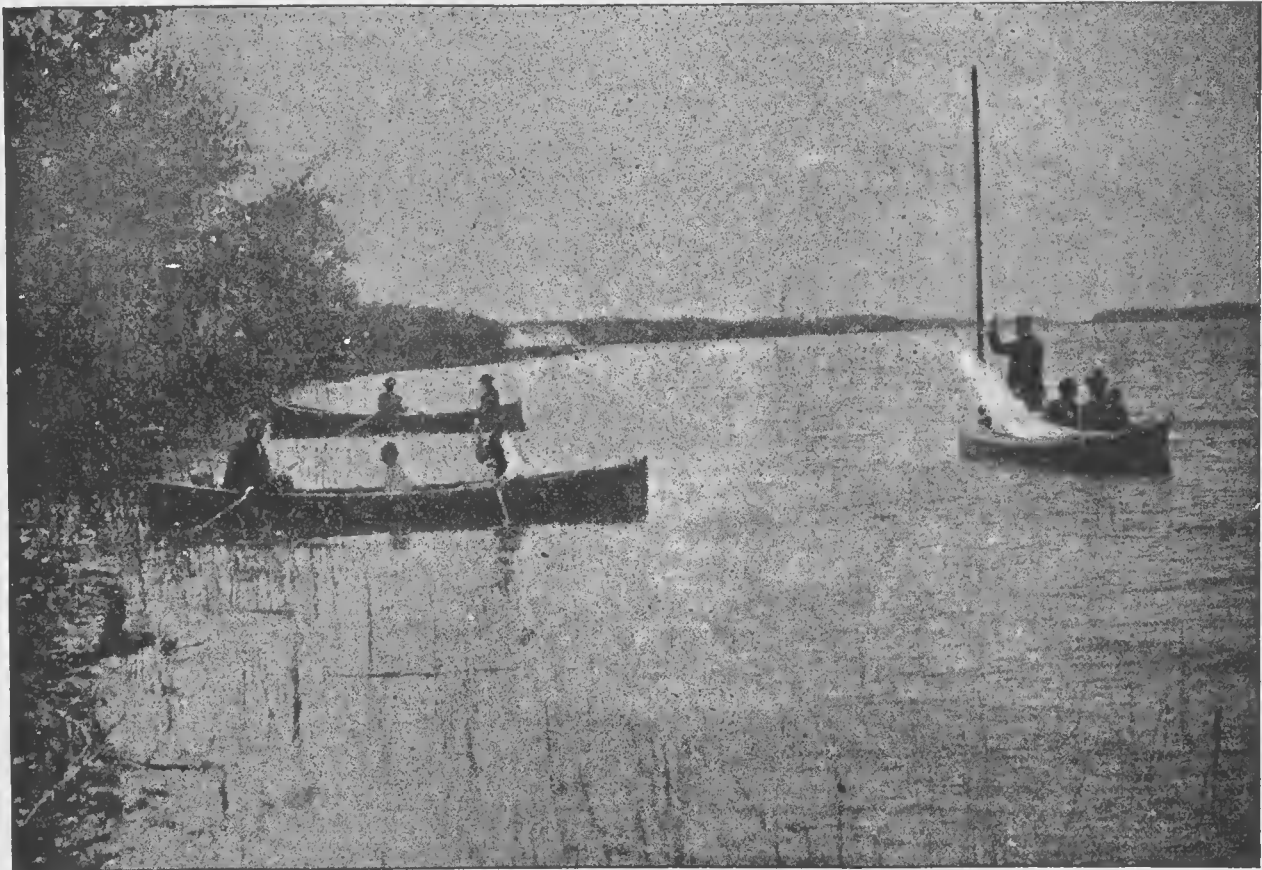
"I know," replied Mabel, with a sigh, "Oh, very."

Then Mabel, much to Discontent's chagrin, fell asleep in the chair and soon began to dream. She thought she and Discontent were walking together to the woods. They had passed the city, and the path outside was very uneven and muddy and the sun had disappeared behind a cloud. Discontent had not stopped grumbling once, and Mabel was really beginning to think that there was not such another unhappy girl in the world as she. Then the sun peeped out again, which made Discontent very angry, for he said the light hurt his eyes, which caused Mabel to discover that it hurt her eyes, too, and she wished the sun had stayed behind the cloud. But the sun had a mission to perform, and it wasn't an obscure one, either, so he shone forth again in all his noon-tide glory, and right across Mabel's and Discontent's faces he

woods—we were just going to get some," said Mabel eagerly.

"Well, I'll show you the way," said the sun, "come along with me." So Mabel trudged over the uneven path, and held up her skirts so they wouldn't trail in the mud, but she found it difficult to walk in her high heels, so she couldn't help complaining a little. Thus Discontent travelled bravely alongside.

At times the sun would suddenly disappear and Mabel would stop in dismay, for she didn't know where to find the flowers herself, and Discontent knew still less about them. Then when the sun came out again Mabel was quite pleased, and forgot to grumble for some time, but whenever she did the sun would as surely hide behind some passing cloud. So in this manner they reached the woods—the three of them, but Discontent had grown so diminutive as to be scarcely noticeable. "Now," said the Ray, "the woods are so thick that I will only be able to flicker along your path at intervals,



Holidaying on Shoal Lake, Manitoba.

was eleven hundred and thirty-seven killed and wounded. No other such Indian fight ever took place on the continent. —From "The Story of the Pioneers," published by the National Book Co., Cincinnati.

Mabel's Dream.

As Mabel sat in a chair before the fire, her feet, encased in her last new dancing shoes, were perched upon the fender, and a frown was upon her face. At first it seemed as if Mabel was enjoying only her own company—and not exactly enjoying it, either—but a close scrutineer might observe sitting on the fender beside the high heels, a dull, grey-looking creature, with a heavy frown, whose name was Discontent.

"It is such a wretched day," Mabel was saying to him; "Bob told me there were flowers in the woods beyond the city, and I wanted so badly to get some."

threw his brightest ray. Mabel blinked and Discontent became almost invisible in the sun's bright light.

"What made you forget me, Mabel?" asked the Ray, "every cloud, you know—" "There, that will do," interrupted Mabel, "I've heard about the silver lining before, and I'm sure there must be rents in it by this time." Discontent loomed larger. The Ray saw he had made a mistake that time, so he kept silent for a while and thought of what next he had better talk about.

By and by he said, "Mabel, who is that fellow by your side—he seems to be afraid of me; some new importation, I suppose?"

"No, indeed," Discontent interposed, indignantly. "I am nearly as old as you are; I was born in the Garden of Eden, and I don't see why you have to shine so much."

"Well, it's my business," retorted the Ray, "and it makes the flowers grow."

"Bob said there were flowers in the

but if Discontent goes in with you he will make everything so dark and grey that you will not see to find the flowers." Mabel saw the Ray meant what he said, so she smiled and Discontent instantly vanished, and somehow she didn't even miss him, but seemed pleased at his desertion. "That's right," said the Ray, and Mabel entered the woods while the sun shone serenely on outside, his bright lights dancing down on the green trees, and now and then a sunbeam would steal down through the leaves to flicker along Mabel's pathway. So Mabel found the flowers—little pink May blossoms, and fragrant soft-tinted hypanthias, and she gathered her hands quite full, and twined leaves in her hat, and decked herself all over with May blossoms. Then when she couldn't carry any more she retraced her steps, and as she reached the outskirts of the woods she saw the sun nestling down towards the west, leaving behind a beautiful red glow, and all the world about was suffused in its light; even the dirty city was changed and seemed:

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"That city of Delight
In Fairyland, whose streets and towers
Are made of gems and lights and flow-
ers."

Mabel thought how beautiful every-
thing was, and that she must always feel
as happy as she did that moment, with
her arms full of fragrant May blossoms;
the city stretching out before her, and
the sun gradually sinking beyond the
vermilion-touched clouds.

Mabel was awakened by a brilliant ray
of sunshine that played across her face.
She started up and looked around for her
flowers—they were all gone, but so had
the dull, grey creature that was sitting
on the fender beside her high heels be-
fore she went to sleep and dreamland.—
Maud Tisdale, in Canadian Home Jour-
nal.

The Burden of a Name.

The following story well illustrates the
burden unintentionally sometimes laid on
a child by its parents.

"I wasn't born cross-eyed nor club-foot-
ed," said the man from Montana, as he
made a vicious bite at the end of a fresh
cigar, "and things have gone fairly well
with me in a business way, but yet there is
one thing which never comes up to me that
I don't feel like committing murder. My
father named me Bonaparte. As a child
I was, of course, called Bony, but as soon
as old enough to get out into the street the
boys shortened that to Bones, and Bones I
am to this day. I'm telling you that no
man who is Bill or Joe or Tom ever gets
up in the world beyond a certain point.
He may be known as a good fellow, but
your familiarities with him lose him your
respect and you undervalue him. Let a
man get a nickname after he has conquer-
ed fame and it helps him, but people are
not helping Jacks and Jims and Petes to
congressional honors or governorships.
That name of Bones excited ridicule and
contempt. I licked fifty different kids for
loading it on me, but it stuck. I went to
Sunday and day school as Bones. I went
to college and to business as Bones. If my
name had been George or Reginald or
Harry, people would have considered that
I had feelings, but as it was any old thing
was all right for Bones. No introduction
was considered necessary. Being named
Bones I must be a good fellow, and good
fellows never stand on ceremony. The
name kept me back at school and college,
and though I fell in love with a dozen dif-
ferent girls before I was 23, they all gave
me the shake on account of the name."

"I finally packed up and took a skip of
a thousand miles for the sole purpose of
getting rid of Bones. I simply used the
initial, and after three months I was way
up in the new community. I opened a
store, began to court a girl, and the people
insisted that I take the postmastership.
I'd have had it and probably a wife at the
same time, but for the advent of one of my
old acquaintances. He dropped into town
and called me Bones, and it knocked me
into the middle of the last century. No-
body had any use for a man with such a
name. There was no weight, no dignity
to it. It would have been all right for a
Digger Indian or a Chinaman, but even
the Hanks and Sams and Abes scoffed at
it. As a matter of fact it was a man
known to everybody as Snub-Nosed Bill
who started the move to freeze me out. In
sixty days I took another jump and set-
tled down in a new place. I was almost
immediately asked to run for the state sen-
ate. I had accented, and the campaign had
opened with a certainty of my being a
winner when I was given away again. I
knew how it would be. Within twenty-
four hours I was asked to withdraw, and

another candidate was put up. The local
papers even tried to make it out that I was
a villain for having played the public.

"My third skip landed me in Montana.
I'm there yet. I'm Bones to every man,
woman and child for a hundred miles
around. I'm Bones to my cow-puncher
and Bones to every tramp who comes along
and I'm given the throw-down for no
other reason. For the last month I've
been working a political racket which was
designed to land me in Congress after a
while. It has cost me a good deal of
thought and considerable money, and this
forenoon I was dead sure of success. But
I'd forgotten my hoodoo, you see. An
hour ago I received this telegram from
one of my workers. See what he says:—
'No use. They got on to Bones, and the
deal is off.'"

Choking may be Easily Relieved.

"Raising the left arm as high as you
can will relieve choking much more rapid-
ly than by being thumped on the back," ex-
plained a medical man to a reporter. "And
it is well that every one should know it,
for often a person gets choked while eat-
ing when there is no one near to thump
him. Frequently at meals and when they
are at play children get choked while eat-
ing, and the customary manner of reliev-
ing them is to slap them sharply in the
back. The effect of this is to set the ob-
struction free, so that it can be swallowed.
The same thing can be brought about by
raising the left hand of the child as high
as possible, and the relief comes much
more rapidly.

In happenings of this kind there should
be no alarm, for if a child sees that older
persons or parents get excited it is liable
to get so also. The best thing to do is to
tell the child to raise the left arm, and im-
mediately the difficulty passes down. —
Washington Star.

The Cheerful Face.

Next to the sunlight of heaven is the
cheerful face. There is no mistaking it.
The bright eye, the unclouded brow, the
sunny smile, all tell of that which dwells
within. Who has not felt its electrifying
influence? One glance at this face lifts us
out of the mists and shadows into the
beautiful realms of hope. One cheerful
face in the household will keep everything
warm and light within. It may be a
very plain face, but there is something in
it we feel, but cannot express, and its
cheery smile sends the blood dancing
through the veins for very joy. There is a
world of blessed magic in the plain, cheer-
ful face, and we would not exchange it
for all the soulless beauty that ever graced
the fairest form on earth.

Daylight for duty; twilight for beauty;
darkness for trust and prayer.

The happiness of love is in action; its
test is what one is willing to do for
others.

There is never an occasion wherein we
cannot be sweet and reasonable, as well as
right.

Sorrows often come to us through the
gateway of selfishness; and they depart
from us through the gateway of sacrifice.

It is not necessary that we should all
agree in our opinions, so long as we
agree in our principles. The spokes of a
wheel diverge from one another, but they
all reunite in the rim.

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I am a lone, lorn bachelor. I hate a single life :
I'm tired of my boarding-house ; I want a home and wife ;
I have a little money. I am neither cross nor old.
Will any maiden have me ? I am waiting to be told.

Perhaps I ought to mention what a husband ought to be
Before I venture further on the matrimonial sea ;
And though my high ideal may not always be maintained,
There isn't any reason why it shouldn't be explained.

A husband should forever be a wooer and bestow
Those lover-like attentions that his sweetheart used to know,
For that will keep the springtime ever blooming in her heart
And give her greater pleasure than a fortune could impart.

A husband should remember that a woman always can
Take better care of money than the very wisest man ;
And so the wife should handle all his earnings, and he'll find
That she will come out way ahead where he would run behind.

A husband should remember that his wife alone must stay
While he is meeting people he can talk to through the day ;
So he should gladly give her his companionship at home,
And on delightful outings, hand in hand, together roam.

A husband should remember that his wife has lots to do
To keep the home in order—and her work is never through ;
So he should try to help her by not leaving things about
For her to put in places and pick up when he is out.

A husband should remember that his wife is mortal, too,
And not expect her always to look pleasant for his view ;
And when he finds her tired, so her troubles seem immense,
He should at once caress her and show sympathy intense.

A husband should remember that a woman is devout
And dearly loves to go to church and meetings, too, about,
So he should never let her go alone—which hurts her pride—
But with the Bible in his hand walk proudly by her side.

The wedding day and birthdays should be held in reverence dear,
And sweetly celebrated on their happy dates each year.
A simple gift of flowers or a book together read
Will keep alive the sentiment which never should be dead.

And now I have endeavored in my plain, but clumsy way,
To mention what a husband ought to be on every day ;
And if there is a maiden who can love me more than self,
I beg the opportunity of asking her myself.

—H. C. Dodge, in *Drover's Journal*.

The Boy and the Farm.

The following article from the *New England Farmer* is published by request:

If you are a farmer and you want your son to be a farmer after you, teach him from his earliest boyhood to respect his father's calling. Instil into his mind the fact that the great men of all ages were sons of farmers. Teach him never to feel shame at the senseless and threadbare jokes of would-be humorists over old Hayseed and his lumbering old market-wagon and his quaintness of speech when he visits the city and stares around at the sights, and does not make half such a fool of himself as the average city man when he comes to the country.

Do not fill his life entirely with work. Recreation is as necessary to happiness and to a healthful development of the spiritual and physical faculties as is pure air, and there is untold wisdom in the

old saw, "All work and no play makes Jack a dull boy."

Encourage him when he tries to do, even if he fails. Failures which teach us how to avoid future disasters are successes. Make him feel that you rest upon his faithfulness and truth in whatever you intrust to him. Do not blame him when he is not at fault, even if things do not turn out as you have expected. Never disparage his efforts. Continual disparagement breaks a boy's spirit, and there is nothing more inspiring, nothing more refreshing in this world than the broad, courageous, undismayed hopefulness of a manly boy.

Take him into your confidence early. Let him know what you are going to plant in the ten-acre field, and how you propose to make the upland fields pay.

Don't snub him. The man who snubs a boy is unworthy to be the father of a son. Let him have the money he earns. You would have to pay the hired man

for taking care of the calves and the colts ; why not remunerate your boy ? Do not disgust him with farming in the beginning by telling him that he does not need anything but his board and clothing now, because he will have "it all" when you are gone. Give him something now. Five dollars when a boy is ten years old is more to him than five thousand will be when you are dead and gone and he has the farm.

Do not devote all the land to corn and potatoes and "things that pay." The garden and the orchard are important factors in the life on the farm, and the flower bed ought to receive just as much attention as the onion bed where you expect to raise the strongly-flavoured candidates for the first premium at your county fair next fall.

Do not starve your family for the sake of taking the best of everything to market. A broad and generous soul cannot develop in a starved body. Live in just as good a house as you can own, free of mortgage. Have a pleasant, sunny living-room with the books and papers and music. Encourage your boy to invite his friends there, and yourself greet them cordially when they come. The lack of social privileges at home is one fertile cause of the temptation extorted by city life on the country young man.

The Girl who Makes a Home.

This young girl was wise early, her mother was wise before her, she began to acquire knowledge of how to do work, and that familiarity with it which robbed it of all that was formidable, when she had to mount a chair to roll out her bit of dough, and her little toy wash tub and board had to stand on her own three-legged stool that she might reach it, and she stirred up her little messes and baked her little pie all as a matter of play. She shelled peas then and strung beans and picked over berries and pared fruit because others did it, and she must have a hand in the business of life ; she followed when the beds were made, and learned to tuck in the under sheet at the top and the upper sheet at the foot before she was tall enough to do much more than reach them ; she would help lay the table when she sat at it in a high chair ; she learned with her own little china tea set and tiny keeler to wash the glasses first and the silver next ; she had a miniature broom ; she dusted, and shook her duster out of the window as she saw others do ; she had a place for everything, and returned everything to its place as soon as it was no longer needed, till it became a habit. Proud was she when she was allowed to make a fire : when her father tasted the first serious

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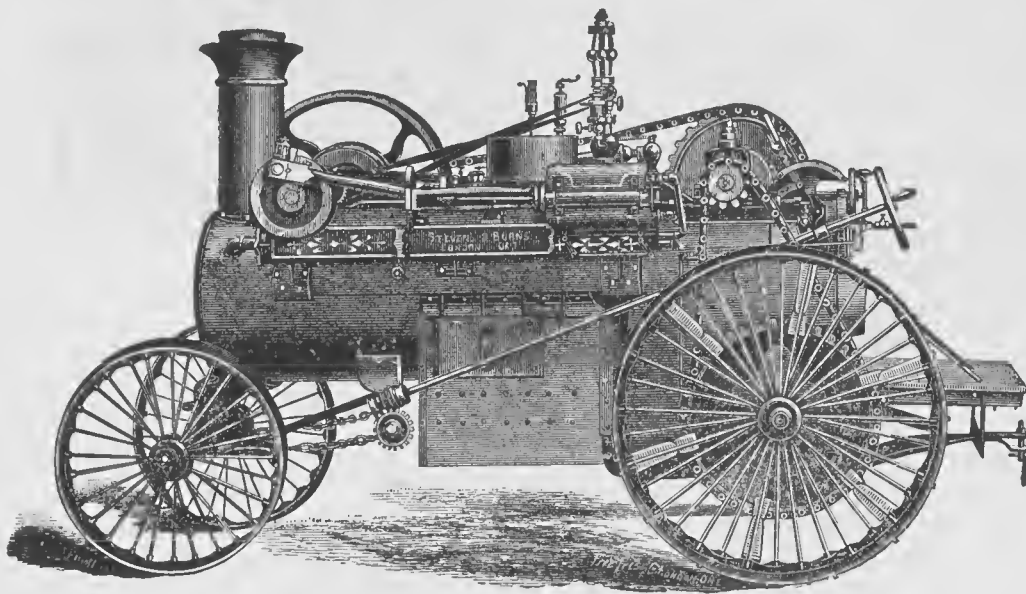
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dish she put together; when her first loaf of bread cut light and white and sweet; when her tea biscuits were pronounced as good as her mother's; when she was promoted to puddings, to cup-cake, to pie-paste, to fruit-cake, to preserves; when her first jelly translucent as stained glass, her pickles were at last put on an equality with her grandmother's. And if she lived on a farm, this child of a wise mother, she knew by this time how to make butter, and perhaps the cheese, to prepare the sausage meat, to pickle the pig's feet, to make the brawn.

This familiarity with work the wise average mother has seen to it that her child acquired, almost without knowing that she did so, even when there was a servant in the house, and, if it were necessary, only experimentally, so that when the day of trial came, it was no day of trial at all to her. The daughter may prefer her book, her piano, her pencil; it is to be hoped she does; but she is ready and equal to her broom, her saucepan, and her flat-iron. She goes about her work so quickly, so deftly, with such knowledge, neither spilling nor cluttering, that it hardly seems to be work, and the results are wrought so easily that you feel as if it were all a process of nature, and the dainty meal, the clean house, the bright lamp, came about like the sunrise or the filling and emptying of the tide. And the beauty of it is that Bridget or Frederika or Gretchen or Betsy may come or she may go, but this young daughter is always there. Whether they come or whether they go, she is the girl that stays, she is always on hand to repair their wrong, she is the bright, willing, loving, strong, and happy staff to lean on. In every home where the mother has had love and foresight, and the daughter has had obedience and ambition, there is perfect composure on the

subject of the servant-girl question. No matter what the other girls may do, there is always—Heaven be blessed for it!—(and unless some lucky lover find her out) a girl that stays.

Catching Elephants.

Many naturalists assign the Asiatic elephant to two species, *Elephas Indicus*, the elephant of India proper and the *Brahmaputra* valley, and the elephant of the far east, *Sumatra*, *Burma* and *Siam*, which is classified as *Elephas Sumatrensis*. Hunters of the jungle, with the majority of scientific men, maintain that there is no real difference between the elephants of Asia, whether in the Indian hills or in the forests of *Burma*, *Siam* and the tropical jungles of the *Malay* region. They say that if any distinction is made it should be between the males that have tusks and those that have none.

The tuskless males, or "muknas," are often better fighters than those armed with tusks, and they easily become leaders of great herds of female and baby elephants.

The greater part of India lies in open plains, often destitute of water, and so hot that no elephant, if left to his own choice, would expose himself there by day. Many travellers doubt if India as a whole ever was an elephant country. The greater part of *Siam* is exactly suited for the animal. The forests are enormous, with plenty of food that elephants like, and where they love to bathe. It is a warm, damp climate, with plenty of shade, and with long tufts of sweet grass, reeds and all manner of jungle fruits. Such a giant as the elephant is must have food, drink and places to rest and bathe on a gigantic scale. In *Burma* he has them.

The wild Indian elephants are caught in

the "keddahs." These are special parts of the jungles inclosed and guarded in such a way that when the elephant is once entrapped he cannot escape.

The average life of the elephant in the service of the English government in India is eighty years.

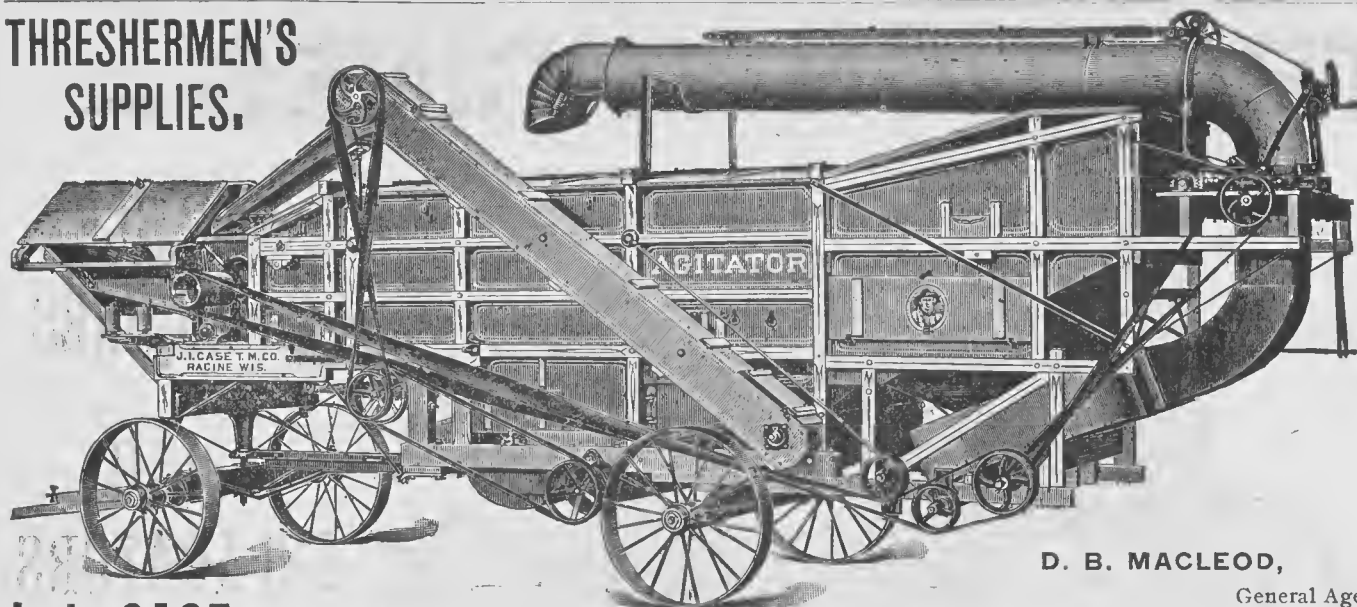
It is in *Siam* that the most civilized and economical method of elephant management is found. Besides the really wild herds there are other herds, which, if not really tame, are at least less wild than the cattle of *Argentina*, *Australia* or the *Marmemma* of the *West Italian* coast, and not wilder than some of the horses on American ranches.

These herds of elephants are the property of the king. Every year they are mustered for inspection, and for selecting the young males for domestic service. The Siamese elephants usually live to be one hundred years old. It is not strange that they grow very much attached to the family of a kind master.

The jungle in which these elephants live is fifty miles long and thirty miles wide. It is in the delta of the *Menam* and *Bangpa-Kung* rivers. No one is allowed to kill them. As the elephant must die some day, the kindly and sensible Siamese are content to take his tusks after the animals die a natural death. Only the males are used for work or as riding animals. They are not only of enormous size, but they have far larger tusks than is common in the Indian branch of the Asiatic species. Many of those belonging to the King of *Siam* have tusks which almost touch the ground, and it has been told that their great length is sometimes very inconvenient. This, however, may be taken merely as a traveller's story. The tusks, like our own arms, hands and feet, probably grow only with the rest of the body.

The yearly elephant catch of the partly domesticated herd takes place at *Ayuthia*, the ancient capital of *Siam*. The perform-

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General Agent,

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ance is a national sporting fete. The grand stand at Ayuthia is occupied by court officers and distinguished visitors. Thousands of country people assemble to watch the driving of the herd to the great inclosure or "pauat," which has been constructed for these occasions. As these herds are kept in a certain area of the jungle, the keddah is permanent and not constructed each year, or for any special hunt, as they are in India. The keddah of Ayuthia is made of gigantic posts of teak wood, and it is several hundred years old.

First of all the herd has to be gathered from the jungle and brought to Ayuthia, a distance of almost forty miles. It is a difficult piece of work to cross with a herd of two hundred or more elephants, including old males with long tusks, and females with baby elephants not larger than a St. Bernard dog. When these babies, perhaps dozens of them, are all squealing and crying at once, the elephant herders say it makes them very nervous. They are afraid some of them might be hurt; and, besides being very sorry for any accident that might happen, they might be punished by the king. A single mounted elephant accustomed to the work leads the way. On each side of him walks a female elephant. These leaders are really decoys for the herd. They are tame, accustomed to travelling and working for their masters, and really understand that no harm will come to those that are about to be taken from the herd. All this conducting—it can hardly be called driving—is done in the gentlest manner possible. The guard elephants keep themselves hidden in the jungle, and in open places at a distance from the herd.

When gathered outside the "pauat," the mob of elephants presents a sight unequalled in the world. The babies keep very close against their mothers to avoid being crushed; while the whole body of great beasts jam tightly together, side touching side, some stumbling and falling, others pushing and thrusting like a flock of enormous sheep.

The object of the catchers is to take the young male elephants, all that are grown large enough for service, and to let the mothers and small calves go back to the jungle. Some are secured where they stand outside the stockade. Men who are expert at handling the noose or lariat ride on trained elephants, armed with rope loops on the ends of bamboo poles. They are really not like the lariat, excepting that they have a slip-knot. The noosers approach the herd, watching to find a chance to slip the rope over a young elephant's foot. The

rope is then made fast to a post, leaving room enough for the animal to walk about, or lie down, and be generally comfortable.

Clever as the animal is, it cannot understand the working of a slip-knot. When a young elephant finds itself captive it pulls on the rope and squeals or trumpets for help. The mother is usually first to answer. The captive continues to pull on the rope, which, of course, draws the knot tighter. The mother and her friends go behind and push. This, too, tightens the rope; but the helpers are driven away by a spearman mounted on one of the guard elephants. After the smaller young ones are thus noosed, the herd is driven again to the river to bathe, and when refreshed they are partly coaxed, partly driven into the big enclosure, when the larger youngsters are secured. From three to four years is the average age at which the young are taken from the herd. They are gentle, affectionate and easily trained.—Our Animal Friends.

New Zealand's Social Legislation.

This colony is gradually developing a method of public policy that will be watched with considerable interest by all English-speaking communities. T. J. McBride, of the Massey-Harris Co., in Citizen and Country, has an article that defines the way in which this social policy is being worked out. The capitalist who wants to invest at big interest will, should this policy be successfully worked out, be rather heavily handicapped. Some of their methods may be summarized as follows:—

1. A tax on large blocks of unimproved land and on mortgages held on such lands. Improvements pay no taxes. An income tax on all incomes above \$1,500 per annum.
2. Any farmer may borrow from the government on the security of his farm and improvements at 5 per cent. interest, with favorable terms of repayment.
3. The schools are national and free. Over \$1,000,000 has already been laid out on government technical schools.
4. The government controls and operates the post office, with its savings banks, the telegraph and telephone systems, and a ten-word message costs 12c.
5. Government has now a state system of life insurance and is perfecting plans for a state fire insurance system.
6. Government controls and administers estates of minors and widows, and charges

a graduated succession tax of from 2 to 10 per cent. on the value of the estate.

7. Government owns and operates all railroads. The rates for passengers and freight pay 3½ per cent. on the actual capital invested; there is no watered stock.

8. Woman suffrage prevails with excellent effect, eight hours is a legal day's work, there is a legal half holiday in each week, and in disputes between employers or capitalists and labor, a conciliation board of seven members is appointed to arbitrate.

9. The large estates are being gradually bought by government to be resold to actual settlers. Near towns provision is made for public parks and small farms. Public libraries and museums are common and public baths are found in many places.

The tendency of this whole system is to equalize the social conditions of the people. Few are very rich and none are very poor, except by their own fault. The tendency is to give every man a fair chance and check the greed of monopolists and privileged people. That class still maintains a vigorous opposition to the socialistic tendencies of the prevailing legislation. New Zealand social politics are evidently bound to prove well worthy the attention of every other colony of Britain.

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(Copy.) Signed, **W. R. F. COLLIS.**
H. J. de WINTON.

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